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The Things We Lost in the Fire: The Political Economy of Post-Apartheid Restructuring of the South African Steel and Engineering Sectors

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Abstract

This thesis examines competing explanations for weak post-apartheid industrial performance through the lens of the restructuring of steel and engineering and the three private and public conglomerates – Iscor, Anglo American and Rembrandt – that dominated these sectors over South Africa's transition to democracy. The twentieth-century evolution of these groups is illustrative of apartheid accumulation processes rooted in mining and heavy industries like steel, and their exertion of increasing control across the economy. Confined to a subordinate role, conglomerate engineering subsidiaries developed significant but truncated industrial capabilities. Orthodox explanations for weak post-apartheid industrial performance, based primarily on the persistence of market distortions and skills deficits, are found to be unsatisfactory. Rather underperformance is better understood through a political economy framework emphasising the influence of ideology and interests. Advocacy by the largest conglomerates for orthodox policies amenable to unfettered restructuring were legitimated by ideological claims and asset transfers to politically influential black individuals. Unguided by national strategies and performance requirements, industrial restructuring was undertaken by the conglomerates themselves in concert with increasingly influential institutional investors. This process resulted in widespread destruction of engineering industrial capabilities; the foreclosure of opportunities to develop globally competitive engineering firms; underinvestment and ultimately crisis in the steel sector; and weakened manufacturing linkages and multipliers with the rest of the economy. Furthermore, efforts since 2007 to mobilise industrial policy at scale to promote diversification from heavy industry has been impeded by these lost opportunities and the political economy conditions that spawned them.

Acknowledgements

I would like to express my thanks to my supervisory committee: Mushtaq Khan, Ben Fine and Jonathan Di John. In particular I wish to thank Minister Rob Davies and Chris Cramer for the invaluable support and encouragement that made the PhD possible. I am grateful to a number of people for their friendship, encouragement, comments and support along the way: Sybil Rhomberg, John Sender, Helena Perez-Nino, Faizel Ismail, Seeraj Mohamed, Simon Roberts, Andrew McGregor, Angelica Baschiera, Penny Rivett-Carnac and the late Steyn Rivett-Carnac. This PhD is dedicated to Kate, Rosa and Leo.

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List of abbreviations and acronyms

AGOA	Africa Growth and Opportunity Act
AMIC	Anglo American Industrial Corporation
AMSA	ArcelorMittal South Africa
ANC	African National Congress
APDP	Automotive Production and Development Programme
ASGISA	Accelerated and Shared Growth Initiative – South Africa
BAA	Business Assistance Agreement
BEE	Black Economic Empowerment
BSC	British Steel Corporation
BTI	Board of Trade and Industries
C&F	Cost and Freight
COSATU	Congress of South African Trade Unions
CSS	Central Statistical Service
CWI	Consolidated Wire Industries
DEP	Department of Economic Policy of the ANC
DTI	Department of Trade and Industry
DMR	Department of Mineral Resources
DMTU	Dry metric tonne units
ECLAC	Economic Commission for Latin America and the Caribbean
ESCOM/ESKOM	Electricity Supply Commission
FDI	Foreign direct investment
FIRE	Finance, insurance and real estate
GATT	General Agreement on Tariffs and Trade
GEAR	Growth Employment and Redistribution Strategy
GBBR	Global Big Business Revolution
GDP	Gross Domestic Product
GEPF	Government Employee's Pension Fund
GEIS	General Export Incentive Scheme
GVC	Global value chain
HCGM	High chromium grinding media
HRC	Hot rolled coil
HS	Harmonised System

IDC	Industrial Development Corporation
IMF	International Monetary Fund
ILO	International Labour Organization
IPAP	Industrial Policy Action Plan
IPSA	International Pipes and Steel Investment South Africa
IPP	Import parity pricing
ISCOR	Iron and Steel Industrial Corporation
ISI	Import substituting industrialisation
ISP	Industrial Strategy Project
JCI	Johannesburg Consolidated Investments
JSE	Johannesburg Stock Exchange
KIO	Kumba Iron Ore
KTH	Kagiso Tiso Holdings
LNM	Lakshmi N Mittal
LSE	London Stock Exchange
MEC	Mineral-Energy-Complex
MERG	Macroeconomic Research Group
M&A	Mergers and acquisitions
MIDP	Motor Industry Development Programme
MNC	Multinational corporation
MTPA	Millions of tonnes per annum
MPRDA	Mineral and Petroleum Resources Development Act
MVA	Manufacturing value added
NEF	National Empowerment Fund
NEM	Normative Economic Model
NICs	Newly Industrialised Countries
NIE	New Institutional Economics
NDP	National Development Plan
NFC	National Finance Corporation
NIPF	National Industrial Policy Framework
NP	National Party
OEM	Original equipment manufacturer
PAC	Pan Africanist Congress
PIC	Public Investment Corporation

PPFA	Preferential Procurement Policy Framework Act
PWV	Pretoria-Witwatersrand-Vereeniging
RDP	Reconstruction and Development Programme
SAB	South African Breweries
SAF	South Africa Foundation
SARH	South African Rail and Harbours
SASIID	South African Standardised Industry Indicator Database
SATS	South African Transport Services
SOE	State owned enterprises
SPV	Special purpose vehicle
StatsSA	Statistics South Africa
UDF	United Democratic Front
UWC	Union Carriage and Wagon
VECOR	Vanderbijl Engineering Corporation
VFTPC	Victoria Falls and Transvaal Power Company
WTO	World Trade Organization

Maps

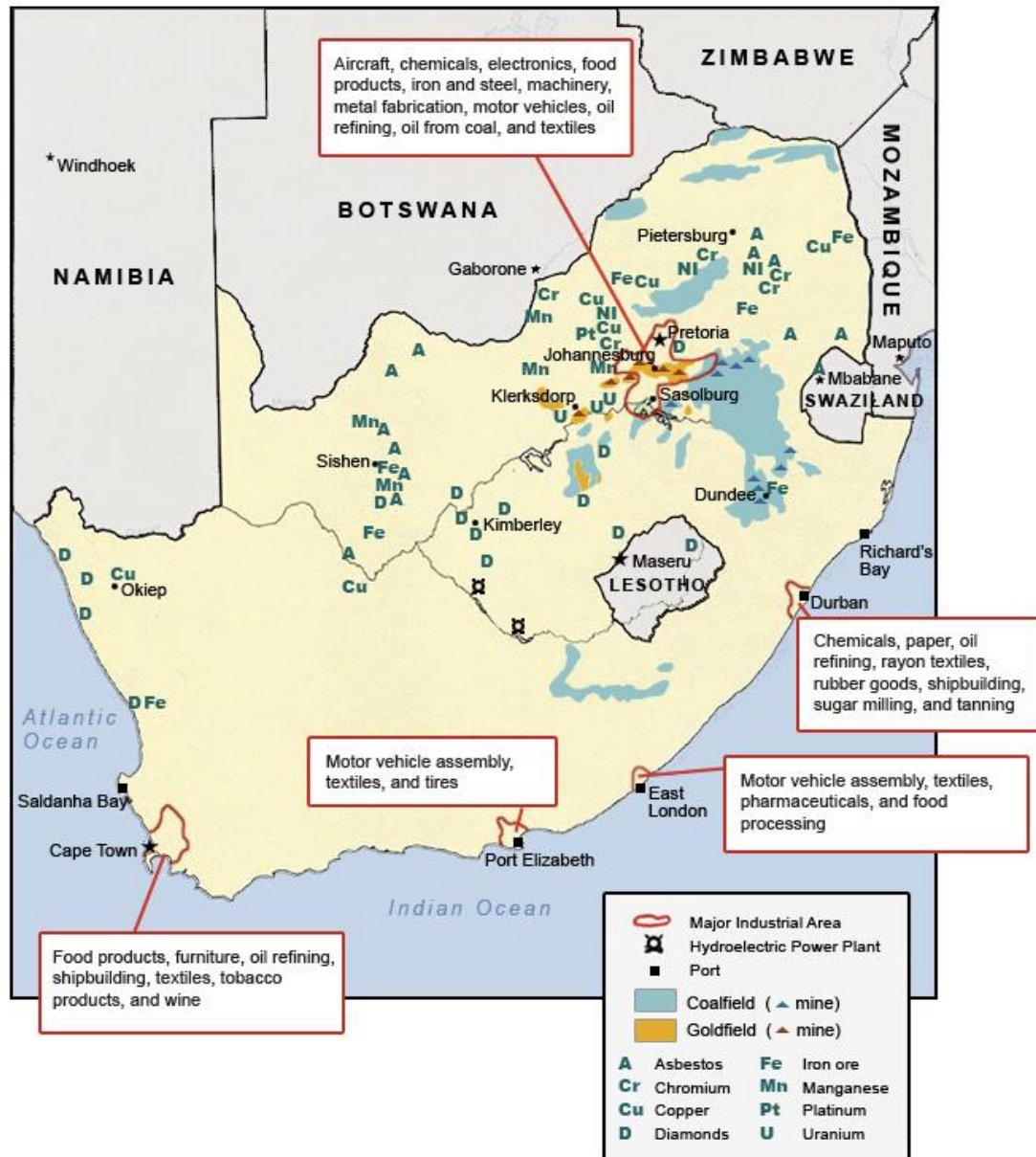
Political map of South Africa, 2005



Base 803037AI (C00827) 1-05

Source: www.lib.utexas.edu/maps/africa/south_africa_pol_2005.jpg

Map of industrial and mining activity, South Africa, 2005



Source: kora.matrix.msu.edu/files/101/596/65-254-103-168-overcoming_apartheid-a0a8a4-a-3272.jpg

Chapter One

South African post-apartheid industrialisation: an introduction

South Africa's transition to democracy in 1994, after a decade of declining per capita incomes and social crisis, came with high hopes for economic revival. There was a broad consensus that revitalisation of the economy required the reorientation of industry from a historical reliance on mining and mineral-processing to more diversified and labour-intensive manufacturing sectors. A dominant orthodox consensus solidified interpreting the failure of apartheid industrialisation primarily as a consequence of product and factor market distortions compounded by the deleterious effects of apartheid's racially discriminatory legacy, particularly on skills development.¹ This market distortions consensus, in conjunction with the influences of ideology and interests, has profoundly shaped post-apartheid policy orientation. Liberalisation and deregulation processes initiated in the 1980s, with the particularly notable deregulation of the financial sector, were accelerated over the 1990s. Macroeconomic stabilisation measures were combined with expedited trade and capital account liberalisation. Despite this attack on market distortions, post-apartheid manufacturing performance has been mediocre, with considerable continuity of apartheid-era weaknesses. These include inadequate diversification of output and exports from mining and heavy industries; rising import penetration of final and intermediate goods and a weak capital goods sector; and declining manufacturing employment. The post-apartheid economy has become increasingly dominated by non-tradable service sectors with a particularly rapid growth of the

¹ Although strictly speaking Apartheid as a policy was formally introduced by the National Party government upon its accession to power in 1948, the term is used in this thesis to refer to the entire period of legislative and institutionalised racist discrimination over the twentieth century prior to democracy in 1994.

financial sector. Moreover, recently introduced industrial policy measures aimed explicitly at diversification of manufacturing outside of heavy industry, has made limited progress in achieving this objective and reversing deindustrialisation.

1.1 The contours of post-apartheid industrial performance

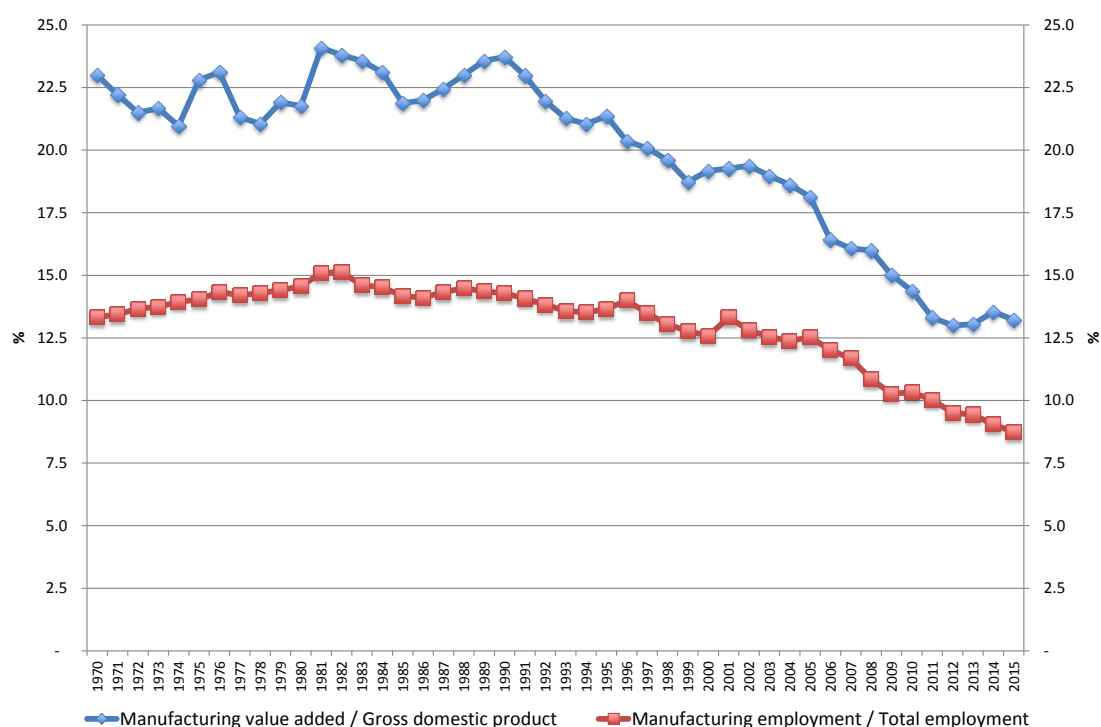
Capitalist development since the Second World War has ushered in historically unprecedented rates of capital accumulation and structural change in the world economy (Maddison 2007). Fast and sustained episodes of capitalist accumulation have been linked to far-reaching increases in wage employment, labour productivity, and health and educational welfare outcomes (Sender 2016). Whereas a handful of developing countries have achieved rapid catch-up with levels of per capita income of their advanced counterparts, progress between and within countries has been deeply uneven (Amsden 2001; World Bank 2008; Szirmai 2013). Episodes of rapid and sustained late industrialisation have been strongly associated with three stylized empirical factors in particular: a high share of manufacturing in Gross Domestic Product (GDP); a high rate of fixed investment in GDP, particularly of machinery and equipment; and rapid growth in the value and sophistication of manufactured exports (Akyüz and Gore 1996; Thirlwall 2002; Hausmann et al. 2005; World Bank 2008; Sender 2016). These stylised empirical facts support a theoretical tradition of cumulative causation that singles out manufacturing as the “engine of growth” due to its unique potential for stimulating rapid labour productivity growth throughout the economy via a range of inter- and intra- sectoral

linkages.² Hirschman's conceptualisation of linkages and development of the concept to embody not only various economic relationships, but the interaction between the economic and the political-institutional has been particularly important (Hirschman 1958, 1968, 1981). Relative to a number of middle-income developing country peers, South Africa has not managed to mobilise its resources for rapid capitalist accumulation either over the last two decades of institutionalised racial discrimination under apartheid or over the two decades following South Africa's first democratic election in 1994.

After initially growing relatively rapidly during the post-war period, South Africa's economic performance weakened considerably from the mid-1970s in absolute terms and relative to middle-income peers. This deterioration was associated with declining investment rates, weakening manufacturing growth, rising unemployment and a lack of diversification of manufacturing output and exports from an historic reliance on mining and capital-intensive mineral processing (Gelb 1991; Fallon and de Silva 1994; Joffe et al. 1995; Fine and Rustomjee 1996; Feinstein 2005; Hirsch 2005). Deindustrialisation, defined as a declining share of manufacturing in the economy, began to set in by the early 1980s whether measured in terms of manufacturing's share in employment or GDP (Figure 1.1).

² As exemplified by Lewis' 1954 two sector model, developed theoretically by economists such as Kaldor (1966, 1967, 1977) and Hirschman, and empirically documented including by Kuznets (1957, 1973), Chenery and Syrquin (1975) Chenery et al. (1986) and more recently Szirmai et al. (2013).

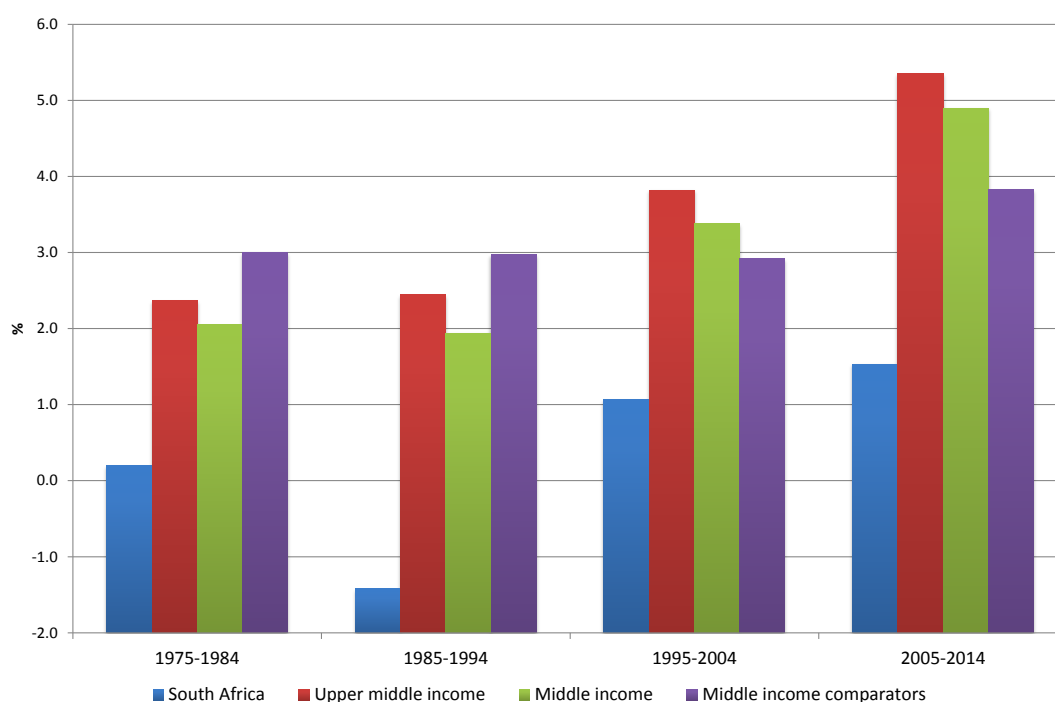
Figure 1.1: Share of manufacturing value added in gross domestic product (current Rm) and of manufacturing in total employment (%), 1970–2015



Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec Research n.d.)

Post-apartheid South African growth has fallen short of upper middle-income and developing country peers (Figure 1.2). Fixed investment levels have been below comparators (Figure 1.3) reflecting similarly weak savings rates while unemployment has been an order of magnitude higher (Figure 1.4).

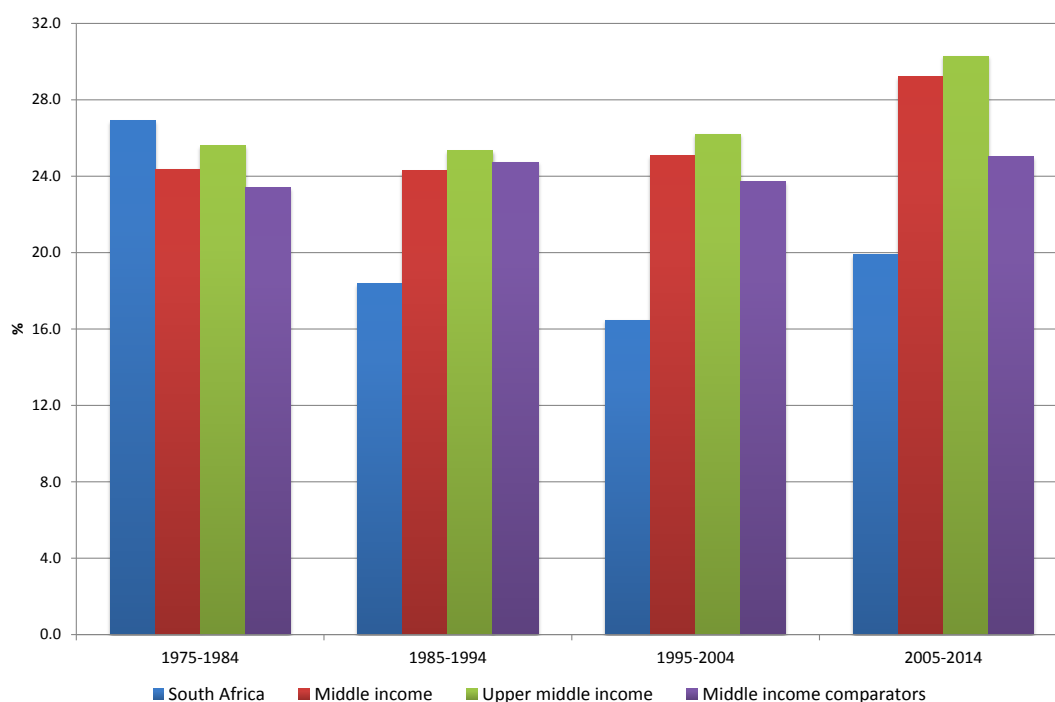
Figure 1.2: South African gross domestic product per capita growth relative to middle-income peers (local currency units) (%), 1975–2014



Source: Author's calculations based on World Development Indicators database (World Bank n.d.-a)

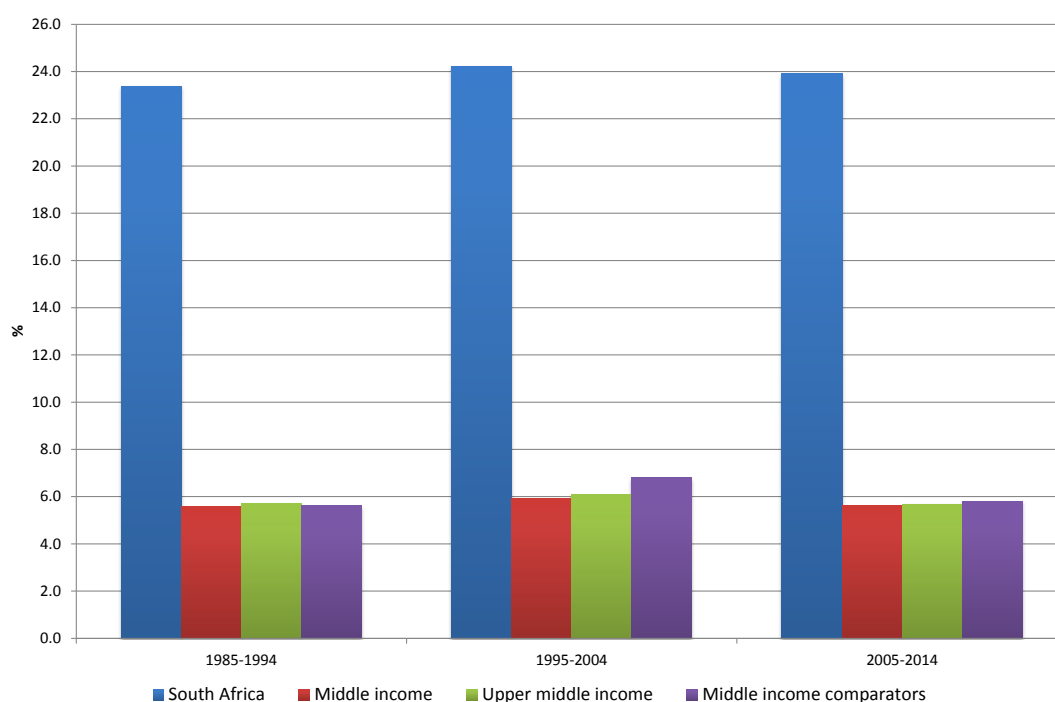
Note: In Figures 1.2 to 1.7, and unless otherwise indicated, *Middle-income comparators* comprise an unweighted average of: Argentina, Brazil, Chile, China, India, Indonesia, Republic of Korea, Malaysia, Mexico, Philippines, the Russian Federation, Thailand and Turkey. The Russian Federation is excluded for the 1975–1984 period in all of these figures, due to data unavailability.

Figure 1.3: South African gross fixed capital formation as a share of GDP relative to middle-income peers(local currency units) (%), 1975–2014



Source: Author's calculations based on World Development Indicators database (World Bank n.d.-a)

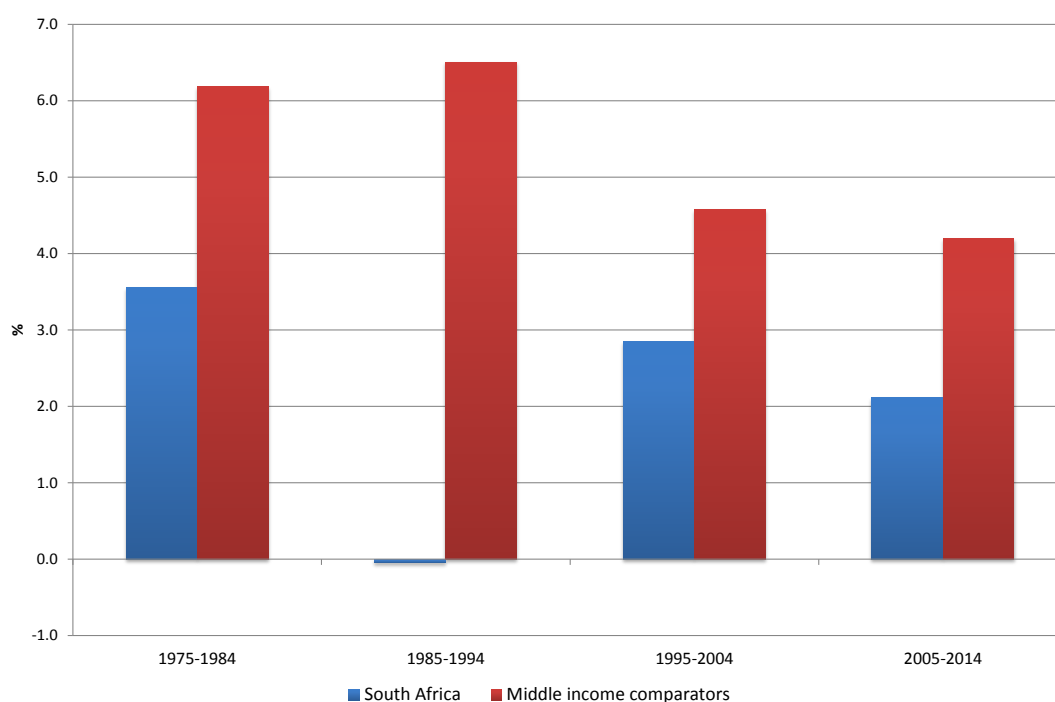
Figure 1.4: South African unemployment rate relative to middle-income peers (%), 1985–2014



Source: Author's calculations based on World Development Indicators database (World Bank n.d.-a)

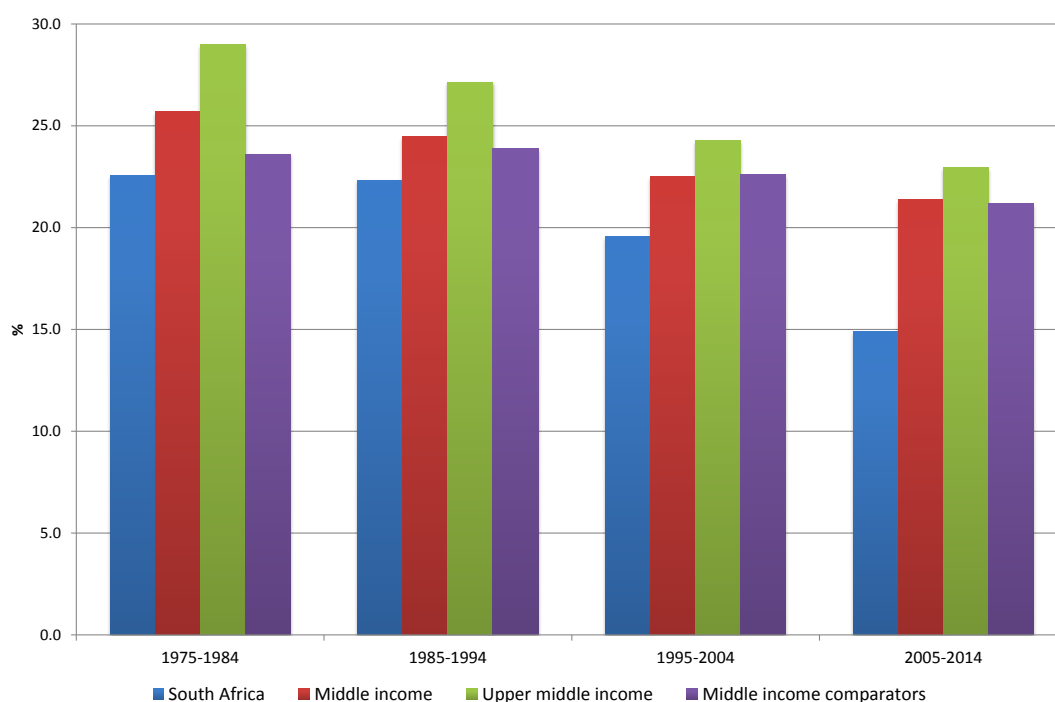
South Africa's manufacturing growth has been lower than peers (Figure 1.5) and consequently its share of manufacturing in GDP has deteriorated far more rapidly (Figure 1.6). Although machinery has grown faster than the manufacturing average over the post-apartheid period (particularly during the mining boom of the 2000s), the machinery and transport equipment industries constitute a significantly smaller part of manufacturing than amongst peer economies, reflecting both weaknesses and lost opportunities (Figure 1.7).

Figure 1.5: Manufacturing value added growth relative to middle-income peers (local currency units) (%), 1975–2014



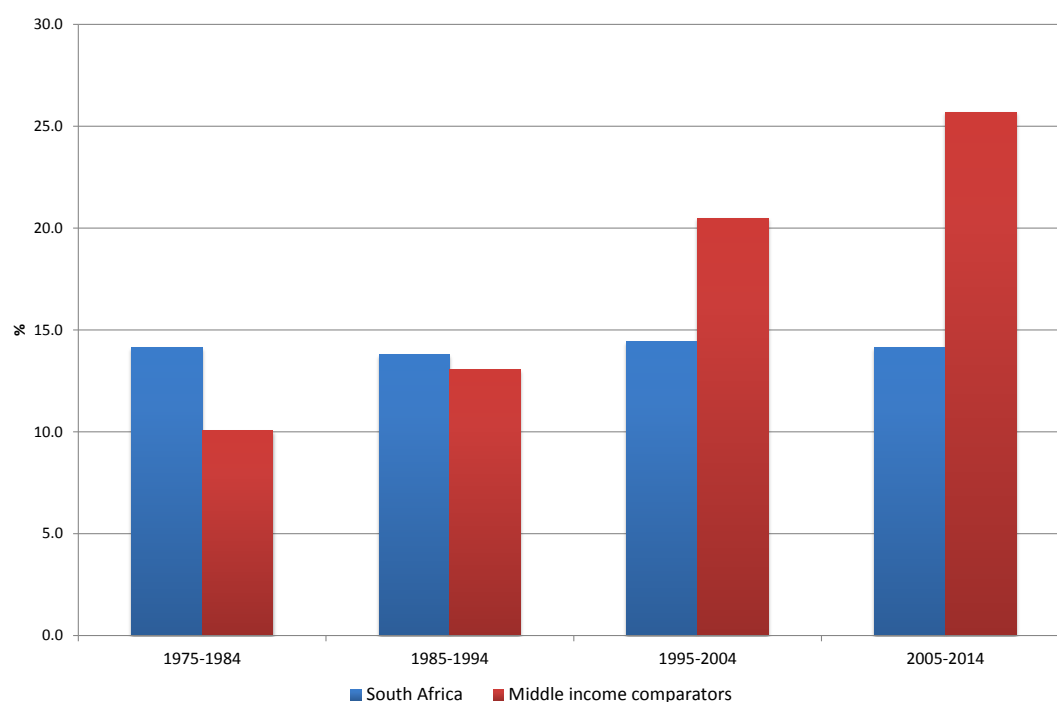
Source: Author's calculations based on World Development Indicators database (World Bank n.d.-a)
Note: Middle-income comparators exclude China and the Russian Federation for all periods and Brazil from 1975–1984, due to data unavailability.

Figure 1.6: Manufacturing value added as a share of GDP relative to middle-income peers (local currency units) (%), 1975–2014



Source: Author's calculations based on World Development Indicators database (World Bank n.d.-a)
Note: Middle-income comparators exclude the Russian Federation for both the 1975–1984 and 1985–1994 periods, due to data unavailability.

Figure 1.7: Machinery and transport equipment as a share of manufacturing relative to middle-income peers (local currency units) (%), 1975–2014



Source: Author's calculations based on World Development Indicators database (World Bank n.d.-a)
Note: Middle-income comparators exclude, due to data unavailability, Brazil and the Russian Federation from 1975–1984, Chile from 1995–2004, and Chile and Argentina from 2005–2014.

Relatively rapid post-war GDP growth between 1947 and 1974 was associated with manufacturing growing faster than the economy (Table 1.1). Subsequent periods of anaemic GDP growth, both 1975-1994 and 1995-2015, have been associated with a far slower growing manufacturing sector. This is suggestive of the operation of Kaldor's "growth laws" that associates rapid GDP and employment growth with a rate of growth of manufacturing in excess of that of GDP. A number of studies have found econometric evidence in support of the Kaldorian hypothesis that manufacturing acts as the "engine of growth" in the South African economy (Wittenberg 1997; Wells and Thirlwall 2003; Millin and Nichola 2005; Tregenna 2008). By implication the long-term weakening of manufacturing growth and its declining relative share in value-added and employment have "pulled down" rather than "pulled up" overall growth and employment over the post-apartheid period.

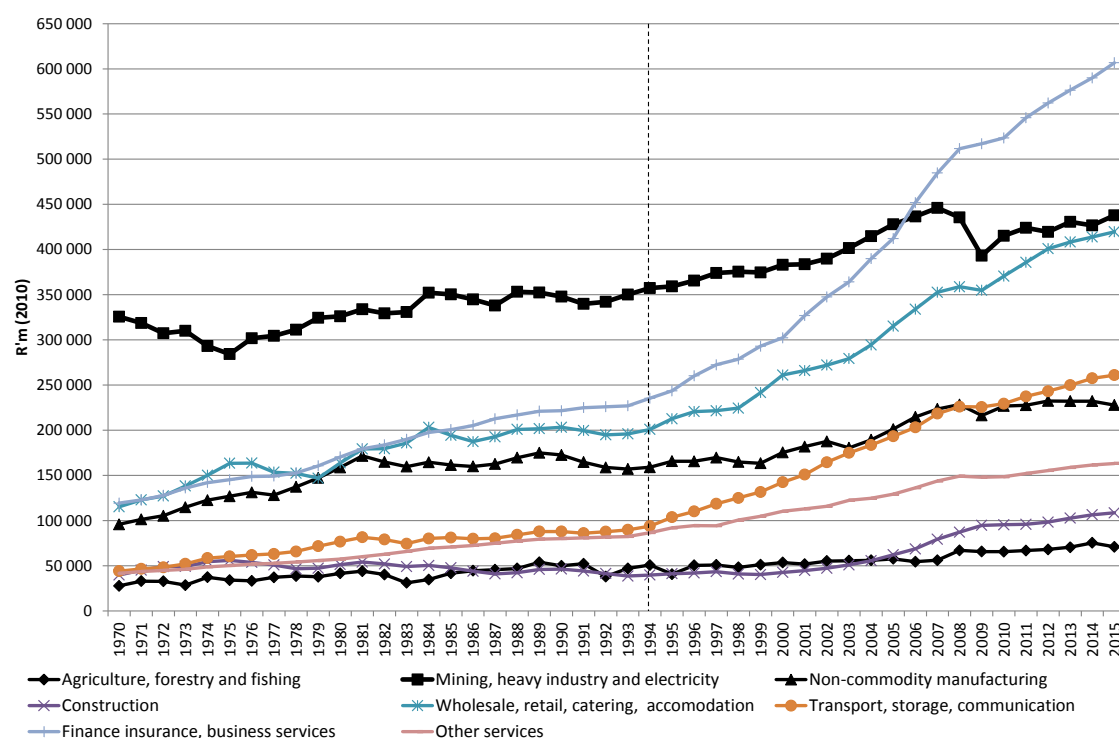
Table 1.1: Annual average growth of real gross domestic product, manufacturing value added (constant Rm 2010) and employment (%), 1947–2015

	GDP	MVA	Employment
1947-1974	4.8	7.4	-
1975-1994	1.8	1.9	2.0
1995-2015	3.0	2.3	0.5

Source: Author's calculations based on South African Reserve Bank Quarterly Bulletin (South African Reserve Bank n.d.)

In sharp contrast to the labour-intensive and export-oriented manufacturing pattern predicted by post-apartheid's most influential policy document, the Growth Employment and Redistribution (GEAR) framework (Department of Finance 1996), growth since 1994 has been dominated by non-tradable services. Very rapid growth of the finance, insurance and business services sectors has been accompanied by large-scale credit extension to increasingly indebted households. A credit-fuelled consumption-led boom boosted the wholesale and retail sectors and has been associated with rapidly rising imports. Mining, heavy industry and electricity continue to exert a considerable weight in the economy and have grown more rapidly than manufacturing sectors falling outside of heavy industry (Figure 1.8) (Mohamed and Roberts 2008; Newman 2010; Ashman et al. 2013a; Zalk 2014a). It is argued in this thesis that the steel and engineering sectors have been broadly reflective of these bifurcated patterns of manufacturing development.

Figure 1.8: Value added by broad sector grouping (Rm 2010), 1970-2015

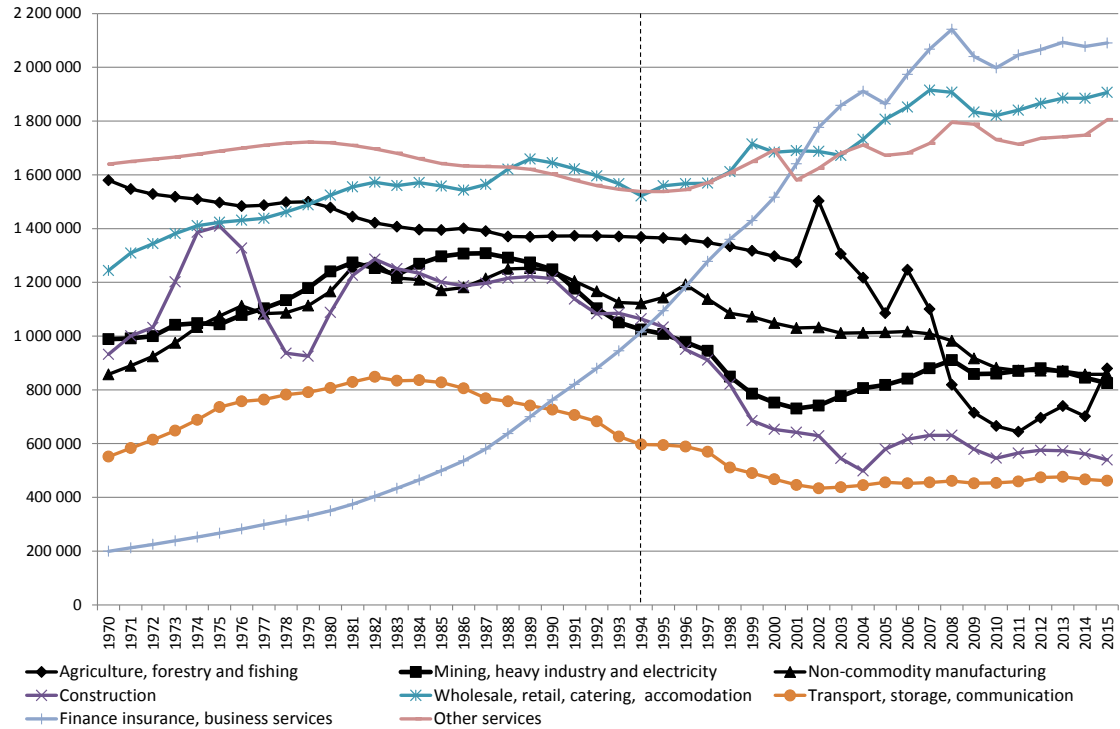


Source: Author's calculations based on South African Standardised Industry Indicator Database (Quantec n.d.).

Note: In this and the following figures *Mining, heavy industry and electricity* comprises: mining and quarrying; wood and paper products; coke and refined petroleum products; basic chemicals; other chemicals and man-made fibres; glass and glass products; non-metallic minerals; basic iron and steel; basic non-ferrous metals. Excludes: general government and water supply.

Generally weak employment growth, accompanied by extremely high unemployment, has taken place mostly in service sectors, notably in wholesale retail, catering and accommodation; finance, insurance and business services and transport, storage and communication sectors. Net employment declines in mining (predominantly due to the long-term decline of gold mining) and in non-commodity manufacturing (by labour-intensive sectors like clothing) accelerated over the post-apartheid period. There has been a particularly large slump in employment in the slow-growing agricultural sectors (Figure 1.9).

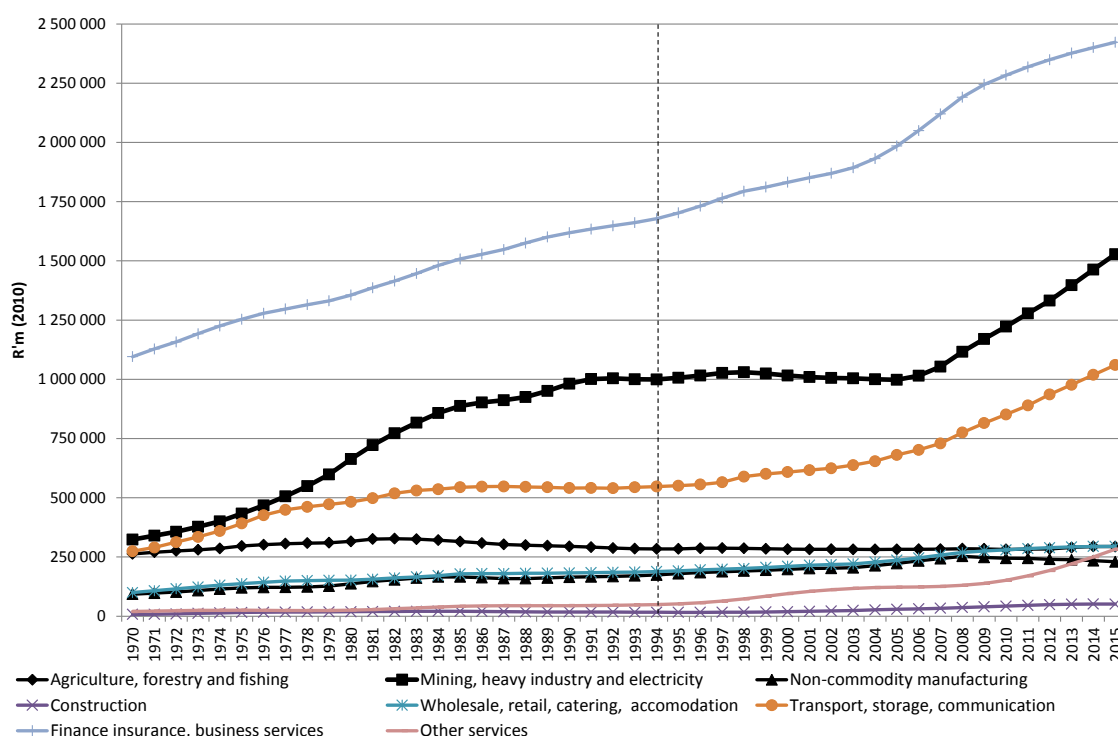
Figure 1.9: Employment by broad sector grouping, 1970-2015



Source: Author's calculations based on South African Standardised Industry Indicator Database (Quantec n.d.).

Although savings and investment rates have been low fixed capital stock since apartheid has become increasingly concentrated in the finance, insurance and business services sectors. Fixed investment in tradable sectors remains concentrated in mining, heavy industry and electricity. The large increase of fixed capital stock in transport and communications reflects both increasing import intensity of the economy and a rapid rise of cellular telephony (itself heavily dependent on imported handsets and equipment) (Figure 1.10). Foreign direct investment inflows have been tepid and dominated by acquisitions rather than net new additions to fixed investment (Chabane et al. 2006).

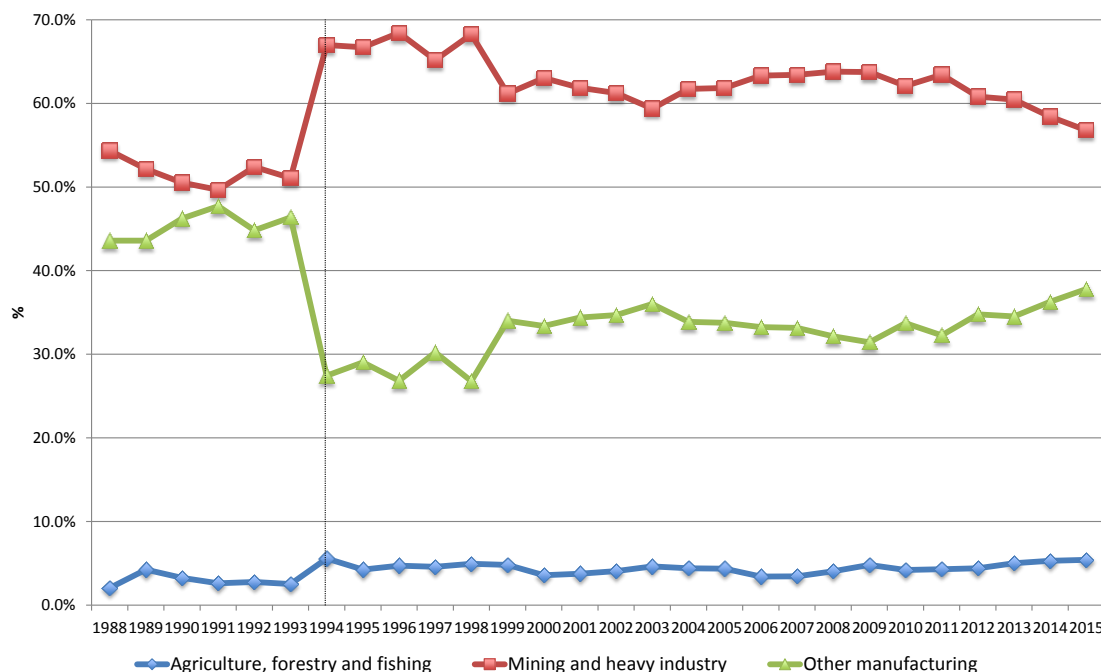
Figure 1.10: Fixed capital stock by broad sector grouping (Rm 2010), 1970-2015



Source: Author's calculations based on South African Standardised Industry Indicator Database (Quantec n.d.).

In the context of generally tepid export performance, reliance on mining and mineral-processing exports has not declined over the post-apartheid period. Buoyed by a slew of capital-intensive mineral-processing projects in the 1990s – including further large investments in carbon and stainless steel – exports of minerals and semi-processed manufactures continued to dominate merchandise exports (56.8% in 2015) (Figure 1.11). Whereas the steel sector has consistently generated significant net exports, the engineering sectors continue to exhibit a large trade deficit (Figure 1.12). Engineering has also experienced a rapidly rising intensity of imports in both final demand and intermediate inputs. Rising import intensity of manufacturing has in turn been associated with a weakening of the multiplier effect it transmits to the rest of the economy (Tregenna 2008, 2012; Burrows and Botha 2013).

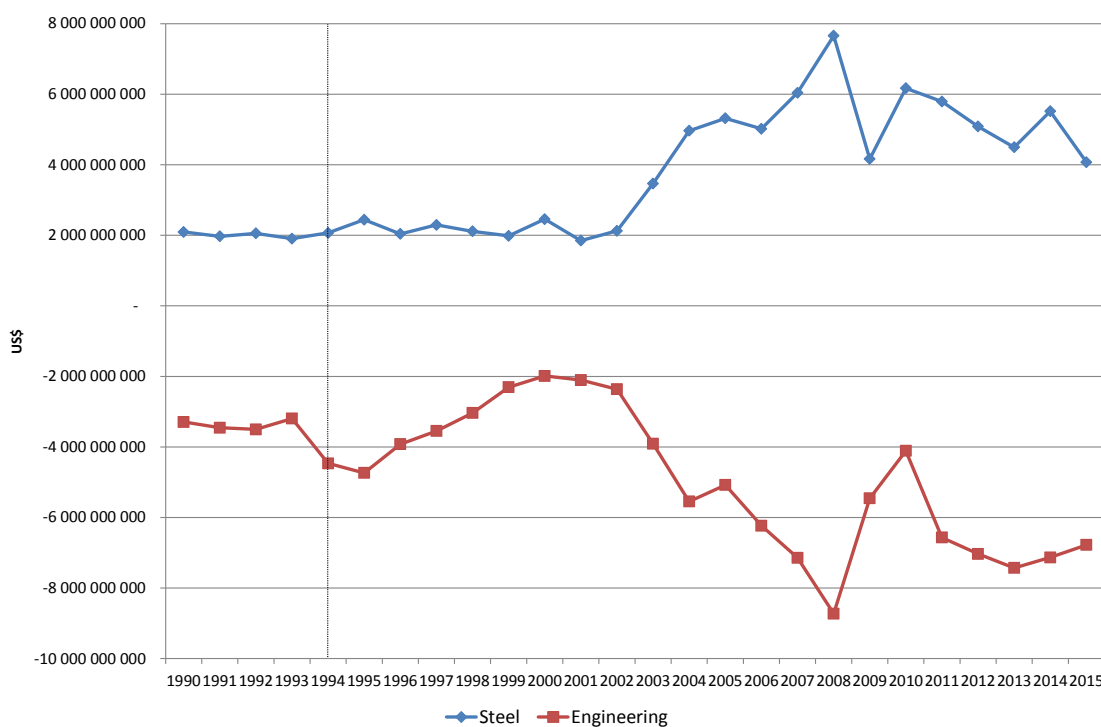
Figure 1.11: Export composition by sector grouping (%), 1988-2015



Source: Author's calculations based on South African Standardised Industry Indicator Database (Quantec n.d.).

Note: The sharp increase from 1993 to 1994 in the contribution of mining and heavy industry exports, and corresponding decline in other manufacturing exports, reflects statistical revision rather than a change in real export activity. Prior to this around 35 per cent of trade was classified by the apartheid government under "Special Categories" or "Unclassified Goods" predominantly to mask trade in armaments, petroleum and gold (Rustomjee 1991)

Figure 1.12: Steel and Engineering trade balance (US\$), 1990-2015



Source: Author's calculations based on South African Standardised Industry Indicator Database (Quantec n.d.).

1.2 Research questions and core contribution

South Africa's failure to mobilise a more dynamic process of industrialisation over the post-apartheid period casts doubt upon the appropriateness of the policy orientation and choices made, above all the adoption and continued influence of the 1996 Growth, Employment and Redistribution (GEAR) Strategy (Department of Finance 1996). Similarly this failure calls into question the appositeness of an overwhelmingly orthodox body of scholarship that has served both *ex ante* to inform and *ex post* to validate orthodox elements in post-apartheid policy. This orthodox consensus interprets the failures of both apartheid and post-apartheid industrialisation chiefly in terms of product and factor market distortions. It has afforded particular prominence to import tariffs in product markets and the allegedly high cost of labour compounded by weak skills formation institutions. Primary emphasis on market distortions has prevailed notwithstanding the limited admission of selected market imperfections and elements of neoclassical institutional economics. The core research questions that are posed in this study are:

- If the failure of apartheid industrialisation was indeed primarily due to widespread product and factor market distortions, compounded by weak skills provision to black workers, why has the extensive post-apartheid attack on distortions been associated with such disappointing manufacturing performance, particularly limited manufacturing value-added, employment and export growth outside of heavy industries?

- To what extent has the adaptation of orthodox scholarship in the face of disappointing post-apartheid manufacturing performance, in its limited admission of market imperfections and conceptualisation of political economy relations along new institutional economics lines, enhanced our understanding of post-apartheid industrialisation? How credible are claims that manufacturing continues to be held back primarily by distortions, particularly in labour markets, compounded by skills deficits?
- How have the political economy bargains forged over and into South Africa's transition to democracy coalesced to shape post-apartheid institutions of industrial restructuring and the strategic orientation of historically white conglomerate groups and emerging black capitalists? How have these institutions and corporate orientation in turn impacted on industrial capabilities and consequent linkages and multipliers transmitted through the economy?
- What light can be shed by a detailed examination of how these bargains have unfolded in the steel and engineering sectors on a broader understanding of post-apartheid industrialisation and the difficulties of recently mobilised industrial policies in gaining sufficient traction to achieve meaningful structural transformation?

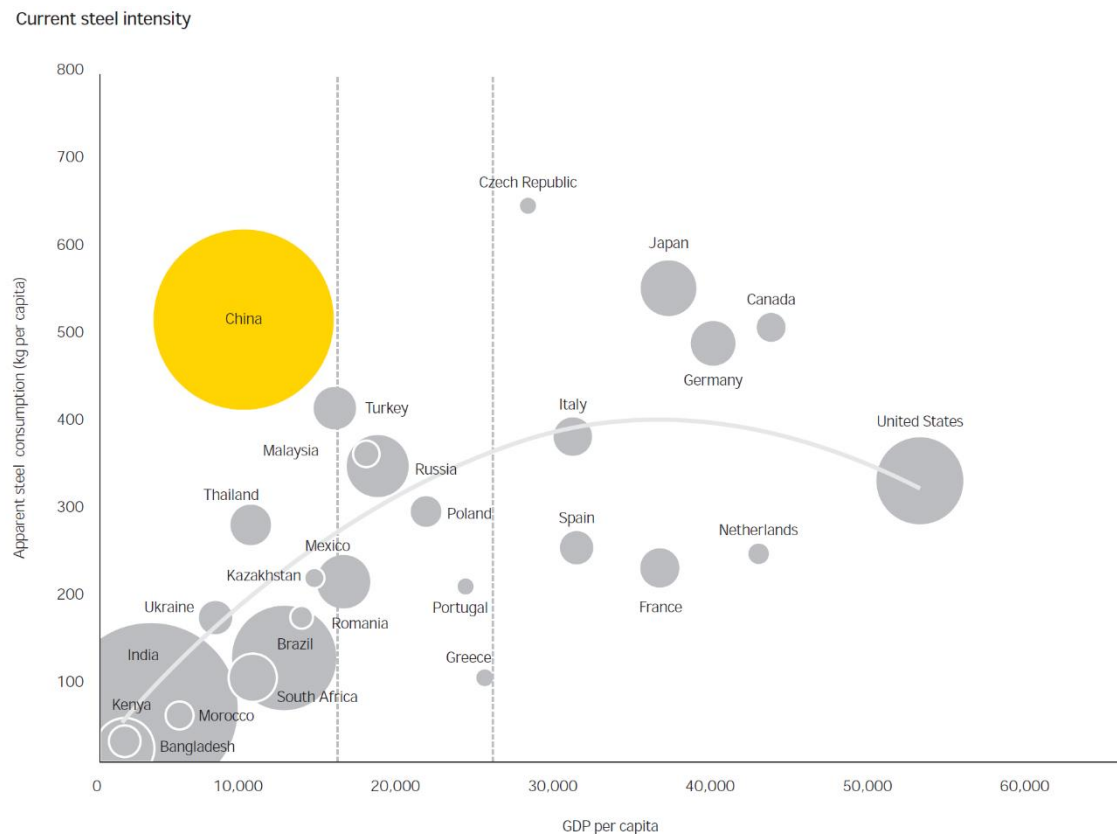
The core contribution of this thesis is to attempt to answer these questions through a detailed examination of the manner in which post-apartheid political economy bargains have shaped the restructuring of steel and engineering, with a particular emphasis on the role of the three large conglomerate groups that dominated these

sectors at the end of the apartheid era: Iscor, Anglo American and Rembrandt. This frame of study is justified on the following grounds.

In contrast to a rich political economy tradition of detailed examination of the influence and agency of large private conglomerate groups and state-owned enterprises (SOEs) on apartheid industrialisation (e.g. O'Meara 1983; Innes 1984; Lipton 1986; Clark 1994; Fine and Rustonjee 1996) there has been a paucity of such studies in post-apartheid scholarship despite pervasive corporate restructuring (with Chabane et al. 2006 being a notable exception).

Steel is the most widely used metal, serving as an essential input into infrastructure, construction, mining and agriculture. It accounts for more than double the annual international sales value and ten times the volume of all other metals combined (Jourdan 2012: 8). Countries undergoing sustained industrialisation thus exhibit rapid increases in per capita consumption of steel, peaking upon the attainment of high levels of per capita income (Figure 1.13).

Figure 1.13: Relationship between apparent steel consumption (kg per capita) and GDP per capita



Source: Ernst & Young (2014: 24), based on World Steel Association and IMF data

A number of development theorists have singled out the development of the domestic steel and engineering sectors as critical for industrialisation. These sectors embody the “pincer-cum-feedback” effect of both backward and forward linkages that Hirschman identified as so important to focus developmental strategy on (Hirschman 1958). Development of engineering, particularly the capital goods sector, is necessary to mobilise increasing returns, embodies various technological spillovers and helps to relieve the balance of payments constraint (Hirschman 1958; Kaldor 1966; Chang 1993; Toner 1999; Storm 2015). Thus policy makers across a range of developing countries have emphasised the strategic nature of steel and engineering and the role of the state in supporting and guiding the development of these sectors (Mahalanobis 1953; Amsden 1989; Woo-Cumings 1999; Nolan 2001).

Empirically the steel and engineering sectors (comprising basic iron and steel, machinery and equipment, metal products and transport equipment) represent around one fifth of South African manufacturing: 19.4% of manufacturing value added and 22.8% of manufacturing employment in 2015. Steel and engineering are not only important due to their weight in manufacturing. The development of these sectors have been argued to be emblematic of a uniquely South African pattern of accumulation around a “Mineral-Energy-Complex” (Fine and Rustonjee 1996) centred on mining and energy which is argued to continue, albeit in an increasingly financialised form, to exert a profound influence over South African industrialisation (Ashman et al. 2013a).

This thesis argues that the heavy influence exerted by the large conglomerate groups over post-apartheid economic policy, as manifested by the corporate and industrial restructuring of the steel and engineering interest of the three historically dominant business groups, has had profoundly damaging consequences for post-apartheid industrialisation. Eschewing any compromise with labour these groups favoured the “benign disciplines” of a rising shareholder value movement and sought political legitimisation for policies as amenable as possible to unfettered restructuring through narrow Black Economic Empowerment (BEE) ownership transfers. The resultant bargains and policies gave rise to a particular set of institutional arrangements whose outcomes have been at odds with the virtuous predictions of the architects of orthodox post-apartheid policies. Both the deepening of Anglo-American style capital market institutions and the form BEE has taken have given rise to large-scale rents without meaningfully raising fixed investment or promoting structural transformation of manufacturing. Low public investment, sweeping trade liberalisation and a de-emphasis until recently of the need for large-

scale and co-ordinated industrial policy combined with the limitations of post-apartheid competition policy to undermine engineering development without eroding damaging patterns of monopolistic behaviour in steel. Rather than giving rise to the putative benefits uncritically ascribed to foreign direct investment, the introduction of foreign ownership in steel has been associated with net capital extraction, monopolistic rents and rising inefficiencies. The rising influence of the shareholder value movement has impelled a destructive process of unbundling of the major engineering subsidiaries with a severe loss of industrial capabilities and foreclosure of opportunities to develop engineering groups of globally competitive scale.

Some important aspects of the restructuring of steel and engineering were not included in the frame of study. Engineering comprises an extremely wide and diverse range of (often overlapping) manufacturing and services activities and associated disciplines related to sectors including manufacturing, mining, construction and architecture (Rustomjee 2007). This study deals exclusively with engineering as a manufacturing activity and those engineering sectors which involve significant conversion of steel and other metals into intermediate or final goods. This relatively narrow focus was chosen because it reflects the scope of the major engineering subsidiaries of the three largest conglomerate groups, whose restructuring is traced in this study. The trade-off of breadth for depth of focus, did however preclude deeper examination of the evolution of major engineering companies that had developed outside of the conglomerate group structure under apartheid. Similarly, a more detailed study of the post-apartheid emergence of the large BEE groups, and the manner in which they have engaged with engineering,

would have been desirable but proved beyond the scope of what was possible for this study.

1.3 Methodological considerations

This study has drawn upon a diverse range of primary and secondary sources within a mixed methods approach. These sources include national and international official statistics, corporate documents, published and unpublished government reports, purposive semi-structured interviews, news and industry publications and previously published research. Various methodological considerations and constraints arising during the course of the research need to be highlighted.

Analysis of empirical trends were subject to significant limitations with South African manufacturing statistics. Steel and engineering sector statistics are derived from production data collected by Statistics South Africa (StatsSA) and trade data collected by South African Revenue Services (SARS). Steel and engineering production is categorized by StatsSA in terms of the Standardised Industrial Classification (SIC) system, as reflected in

Table 1.2. Steel production is readily located within SIC categories 351 (Basic Iron and Steel) and 353 (Casting of Metals) while engineering production involves a diverse range of manufacturing straddling three main SIC groupings: Fabricated Metal Products (354 and 355), Machinery and Equipment (356, 357 and 358) and Other Transport Equipment (384, 385 and 386) as reflected in Table 1.2.

Table 1.2: Steel and engineering sectors by Standardised Industrial Classification (SIC) code

Manufacture of Basic Metals (351, 352 and 353)	
351	Manufacture of Basic Iron and Steel
3510	Manufacture of basic iron and steel
35101	Basic iron and steel industries, except steel pipe and tube mills
35102	Steel pipe and tube mills
353	Casting of Metals
3531	Casting of iron and steel
Manufacture of Fabricated Metal Products (354 and 355)	
354	Manufacture of Structural Metal Products, Tanks, Reservoirs and Steam Generators
3541	Manufacture of structural metal products
35411	Manufacture of metal structures or parts thereof
35419	Other structural metal products, e.g. metal doors, windows and gates
3542	Manufacture of tanks, reservoirs and similar containers of metal
3543	Manufacture of steam generators, except central heating hot water boilers
355	Manufacture of Other Fabricated Metal Products; Metalwork Service Activities
3551	Forging, pressing, stamping and roll-forming of metal; powder metallurgy
3552	Treatment and coating of metals; general mechanical engineering on a fee or contract basis
35521	Treating and coating of metals
35522	General mechanical engineering on a fee or contract basis
3553	Manufacture of cutlery, hand tools and general hardware
3559	Manufacture of other fabricated metal products n.e.c.
35591	Manufacture of metal containers, e.g. cans and tins
35592	Manufacture of cables and wire products
35593	Manufacture of springs (all types)
35594	Manufacture of metal fasteners
35599	Manufacture of other metal products n.e.c.
3551	Forging, pressing, stamping and roll-forming metal, powder metallurgy
3552	Treat and coating of metals and mechanical engineering on fee basis
3553	Mfg of cutlery, hand tools and general hardware
3559	Mfg of other fabricated metal products n.e.c.
Manufacture of Machinery and Equipment N.E.C. (356, 357 and 358)	
356	Manufacture of General Purpose Machinery
3561	Manufacture of engines and turbines, except aircraft, vehicle and motor cycle engines
3562	Manufacture of pumps, compressors, taps and valves
3563	Manufacture of bearings, gears, gearing and driving elements
3564	Manufacture of ovens, furnaces and furnace burners
3565	Manufacture of lifting and handling equipment
3569	Manufacture of other general purpose machinery
357	Manufacture of Special Purpose Machinery
3571	Manufacture of agricultural and forestry machinery
3572	Manufacture of machine tools
3573	Manufacture of machinery for metallurgy
3574	Manufacture of machinery for mining, quarrying and construction
3575	Manufacture of machinery for food, beverage and tobacco processing
3576	Manufacture of machinery for textile, apparel and leather production
3577	Manufacture of weapons and ammunition
3579	Manufacture of other special purpose machinery
358	Manufacture of Household Appliances N.E.C.
359	Manufacture of office, Accounting and Computing Machinery
Manufacture of Other Transport Equipment (384, 385 and 386)	
384	Building and Repairing of Ships and Boats
3841	Building and repairing of ships
3842	Building and repairing of pleasure and sporting boats
385	Manufacture of Railway and Tramway Locomotives and Rolling Stock
386	Manufacture of Aircraft and Spacecraft

Source: Statistics South Africa (1993)

However, a number of shortcomings and limitations, particularly with StatsSA's production statistics, are evident. Whereas the apartheid-era Central Statistical Service (CSS) conducted regular censi of manufacturing, publishing data disaggregated to the four digit SIC level, StatsSA has shifted to more limited large sample surveys (LSS's), with the last manufacturing census published in 1996 (Statistics South Africa 2001). Furthermore, official estimates of variables such as value-added within manufacturing sectors are not regularly published, with gaps of four or five years between the publication of revised input-output or supply-use tables, which themselves report on production structure with a lag of three or more years. This has introduced three main limitations with official post-apartheid manufacturing production statistics. Firstly, the shift from censi to surveys and long lags between the publication of value-added estimates may not adequately capture changing patterns of production over a period of intense structural change. Secondly, limitations in discerning which sub-sectors of engineering have driven aggregate levels of change are compounded by a reduction in the level of detail at which StatsSA reports. As reflected in

Table 1.2 above a sector such as Machinery and Equipment contains a diverse range of three, four and five digit sub-sectors. Thirdly, as the level of detail of Stats SA manufacturing statistics has declined, it appears to have withdrawn from providing sectoral estimates to UNIDO's Industrial Statistics databases, the major international source of cross country comparisons of subsectoral manufacturing performance (Zalk 2014b).

Trade statistics, based on the Harmonised System (HS) are available on a far more detailed and frequent basis. However, trade data is also subject to limitations, albeit not necessarily unique to South Africa. Firstly, trade misinvoicing, often linked to

transfer pricing and profit shifting of transnational corporations, distorts trade statistics. Primary mineral commodities, and semi-processed commodities such as steel, have been identified as a major site of transfer pricing (Ashman et al. 2011; Ndikumana 2016). Secondly, as discussed in Chapter 5, estimates of ratios of both export to output and of imports to domestic demand appear to be exaggerated, reflecting the apparent inclusion imports destined for re-export.

Private data providers have stepped into the breach, most notably the company Quantec which uses various available official, albeit intermittent, statistical sources to "standardise" industry data. That is to scale estimates of sectoral production to national accounts aggregates and estimate variables, such as sectoral value added, based on intermittently published input-output and supply-use tables and more limited but regular official data releases. Although Quantec provides some detail of the data series employed to undertake these extrapolations, they do not place their methodology for doing so in the public domain. The resultant South African Standardised Industry Indicator Database (SASIID) (Quantec, n.d.) has become the mainstay for many researchers and has been used for the purposes of this study, mindful of its limitations.

This study made extensive use of annual reports, financial statements and a range of other corporate material in piecing together the evolution and post-apartheid restructuring of the three large business groups that dominated the steel and engineering sectors at the end of apartheid: Iscor, Anglo American and Rembrandt. Collating this material proved a major undertaking. Whereas various reports were accessible electronically a number had to be manually retrieved and copied. Anglo American Industrial Corporation (AMIC) annual reports were sourced from the

Anglo American library in Johannesburg. Dorbyl, Iscor and Metkor annual reports were sourced from the Cape Town branch of the National Library of South Africa. Because Scaw and Boart were not publically listed, but wholly owned subsidiaries of AMIC their evolution and restructuring had to be pieced together from a range of sources including references in AMIC annual reports, interviews, commissioned corporate histories, media reports. Legal proceedings sometimes also revealed important insights, such as the remarkable arrangement amongst major shareholders to reward management for the dismantling of South Africa's largest ever engineering firm: Dorbyl. Corporate histories and bibliographies were consulted, albeit with scepticism in relation to hagiographical representations of founding families and leading executives often contained in these accounts.

Official corporate material was supplemented with purposive semi-structured interviews, predominantly with current and former directors or executives of steel and engineering firms or their parent companies. The choice of semi-structured interviews was informed by a number of considerations. As the research focussed on a small number of firms, formerly conglomerate subsidiaries, a quantitative survey was not appropriate. Furthermore the interviews encouraged informants to provide their own account of the development of the firm, the nature of capabilities it developed and supply and demand conditions it faced, as distinct for instance from requesting some ranking of a preconceived list of constraints determined in advance as characteristic of many quantitative firm surveys. A record of the interview was emailed to informants, inviting them to amend any aspect they felt did not accurately reflect their views. My own positionality as a Department of Trade and

Industry official was pertinent.³ In some cases this positionality meant that interviews were not possible, informants sometimes agreed to meet apparently to try establish my own level of information, before withdrawing permission or providing very little meaningful information. My own specific role in advancing policy aimed at tackling monopolistic pricing in steel and other heavy industries largely foreclosed the possibility of interviewing executives of the largest primary steel producers.⁴ Conversely, my professional positionality may have sometimes assisted in securing interviews, *inter alia* via through introductions by industry professionals with potential interviewees.

The overarching methodological approach to the study has been one of “triangulation” across multiple and mixed information, particularly corporate, sources to check for consistency or inconsistency. The approach to corporate narratives was *inter alia* informed heuristically by Froud et al.’s (2006) methodology of contrasting corporate “narratives” with corporate “numbers”. For Froud et al. (2006) corporate management, subject to demands to deliver unrealistically high levels of shareholder returns, have adopted “shareholder value” as an ephemeral narrative to convince shareholders that their strategies will deliver dramatic returns. Detailed interrogation of the “numbers”, that is actual financial performance and measures of financial sustainability, are used to test management narratives, often revealing disappointing financial performance. The contrast

³ Prior to commencing the PhD research I was intensively involved in the design and implementation of industrial policy in senior managerial positions within the Department of Trade and Industry as Chief Director: Industrial Policy and Deputy Director-General of Industrial Development Division of the DTI, between 2003 and 2012

⁴ See for instance Paton (2012) ‘ArcelorMittal SA fumes over state’s policy snub’, <http://www.arcelormittalsa.com/Portals/0/ArcelorMittal%20SA%20fumes%20over%20state%27s%20policy%20snub.pdf>

between narrative and reality has been assessed at two levels. First, the thesis considers the extent to which the narrative mobilised by the largest conglomerates for policies as amendable as possible to unfettered restructuring has given rise to the promise of higher fixed investment, particularly in manufacturing diversified beyond heavy industry. Second, the thesis examines what the impact has been of the policies advocated by the conglomerate groups as well as the evolution of their primary legitimisation mechanism, the introduction of Black Economic Empowerment asset transfers, on the restructuring of their steel and engineering interests in particular.

1.4 Structure of the study

Chapter 2 sets out the political economy framework adopted for this study. I argue that a “golden thread” of cumulative causation theory runs through much classical and structuralist development economics which remains relevant to the analysis of contemporary industrialisation. However, the primary weakness of this canon, is that its conceptual and empirical strengths were not matched with an adequate conceptualisation of the political-institutional conditions necessary for its recommendations of state-led industrialisation. This contributed to mounting difficulties amongst a range of developing countries in sustaining industrialisation and paved the way for a “neoliberal revolution” in economics and associated “Washington Consensus” policies. Disappointing results from the latter and evidence that the “east Asian miracle” involved extensive intervention by “developmental states” in turn prompted limited rethinking of orthodox economic and institutional assumptions as heterodox economics sought a more generalisable theory of a “developmental state”. A resource or capabilities based tradition of

conceptualising the firm and its application to late industrialisation is contrasted with theories within the neoclassical tradition, emphasizing their implications for industrialisation and the role of the state. The limitations of both circumscribed rethinking within orthodox economics and the heterodox developmental state literature forms the basis for a three-pronged political economy framework stressing the continued relevance of cumulative causation theory; a capabilities-based understanding of the firm emphasising market and state-constructed compulsions shaping its strategic orientation and the industrial capabilities it develops; and modern theories of political economy that forge a link between the economic and the political-institutional.

Chapter 3 traces the development of the steel and engineering interests of three dominant business groups from the early twentieth century to the end of apartheid with the mining roots of racially exclusive industrialisation shaped by the economic dominance of English mining capital amid rising Afrikaner economic ambitions, and the emergence of state-owned enterprises as central to subsequent industrialisation. Post-war development of steel and engineering is presented as illustrative of processes of conflict and increasing compromise between Afrikaner political and English economic power. It reflects how control over both the steel and engineering sectors solidified by the end of the 1980s around a nexus of three large business groups: state-owned Iscor and the two biggest private conglomerates: Anglo American and Rembrandt. The failure to develop the engineering sector more fully under is attributed to the subordinate role of engineering subsidiaries in large business groups' accumulation strategies; the failure of the state to deploy instruments such as tariffs as part of any broader national strategy to develop and

diversify engineering, and the permissive role of competition policy in easing conglomerate growth through acquisition rather than net new investment.

Chapter 4 deals with the emergence of post-apartheid economic policy as a confluence of the influences of scholarship, ideology and the bargains initiated by the largest conglomerate groups in the advancement of their interests. It traces the emergence of two alternate interpretations of the failure of apartheid industrialisation and associated visions of post-apartheid industrial restructuring. The first, ultimately solidifying as the dominant consensus, locates the failure of apartheid industrialisation in product and factor market distortions compounded by racially discriminatory skills provision, with trade and labour market policies elevated as the primary causes of failure. The second locates failure in the context of a uniquely South African “system of accumulation” around a “mineral-energy-complex” group of sectors in which state-owned enterprises played the dominant role in underpinning private accumulation. The chapter reflects how the liberalising policy thrust of the dominant orthodox consensus was amplified by ideological claims and rhetoric of the large conglomerate groups, even as the state was intervening extensively in their favour. With the primary objective of securing policies as favourable as possible to unrestricted restructuring, and eschewing a bargain with labour, the conglomerates initiated Black Economic Empowerment asset transfers as a tactical legitimisation mechanism while embracing the “benign disciplines” of the increasingly influential shareholder value movement. The co-evolution of post-apartheid policy and orthodox scholarship is traced, arguing that limited theoretical adaptations prompted by disappointing economic performance and developments in economics itself have proved inadequate and misleading, serving primarily *ex post* to inform and *ex ante* to validate orthodox elements of

policy. Rather industrialisation is better understood through the lens of the alternate three-pronged political economy framework, emphasising how South Africa's post-apartheid bargains have involved a collusive alliance between conglomerates and institutional investors to secure maximum freedom of movement to restructure and pursue shareholder value, legitimated for a period of time through the introduction of Black Economic Empowerment. This has shifted corporate orientation towards finance and other non-tradable sectors and even further away from building industrial capabilities outside of mining and heavy industry.

Chapter 5 traces the impact of post-apartheid political economy bargains on the institutions shaping industrial restructuring and performance, in the context of the international rise of a shareholder value movement and global sectoral consolidation dubbed the "Global Big Business Revolution". It reflects how the adoption of Washington consensus policies and Anglo-American capital market institutions have catalysed increasing financialisation of the economy. That is the rapid growth of the financial sector and associated large-scale flow of rents to institutional investors without corresponding increases in savings and fixed investment. Low levels of fixed capital formation have been channelled increasingly to non-tradable services (much to finance itself) with significant continuity of apartheid patterns of a concentration of fixed investment in mining, electricity and heavy industry. The evolution of Black Economic Empowerment (BEE) is traced from a tactical conglomerate legitimisation mechanism to a cornerstone of public policy and practice, supported by government licencing, procurement and public finance institutions. Large rents have flowed to beneficiaries of BEE without meaningfully contributing to fixed capital formation in general and manufacturing

investment in particular. The evolution of trade, industrial and competition policy is sketched reflecting how sweeping trade liberalisation has not been associated with predicted industrial dynamism while the Industrial Development Corporation has continued to support investment mining and mineral-processing sectors. Recent attempts to mobilise meaningful industrial policy for structural change have been caught between orthodox policy on the one hand and the elevation of narrow BEE ownership transfer imperatives over industrialisation objectives, compounded by weaknesses in the design and implementation of industrial policy on the other. Poor manufacturing performance has flowed from South Africa's post-apartheid bargains and concomitant institutional arrangements, characterised by low manufacturing investment outside of heavy industry, rising import penetration, weak export growth, limited linkage formation and weakening multipliers. Outside of pockets of export dynamism linked to mining, restructuring of engineering has reflected the dismantling rather than reorientation and development of capabilities built up under apartheid. Furthermore, underinvestment in the steel sector, hitherto reflective of the strengths of apartheid's skewed industrialisation, has led to a deep crisis in the sector.

Chapter 6 illustrates how these institutions of industrial restructuring have manifested themselves in the restructuring of the two largest private conglomerate groups, Anglo and Rembrandt, within the context of the global restructuring of the steel, iron ore and engineering sectors. It traces Anglo's extensive restructuring as it secured the domestic political conditions for its offshore listing on the London Stock Exchange (LSE). Anglo's primary industrial subsidiary, the Anglo American Industrial Corporation (AMIC), was reabsorbed into Anglo in the face of sliding profits of its steel and engineering operations amid low fixed investment, trade

liberalisation, the absence of a national strategy for engineering, and managerial ineptitude. Multiple rounds of restructuring prompted by the demands of global institutional investors led to the destructive unbundling of Anglo's steel and engineering assets and ultimately Anglo's own decline. After securing its lucrative tobacco holdings offshore, Rembrandt shifted decisively to a far greater financial orientation as a "pure investment holding company" in the context of a bargain with institutional investors for the delivery of high returns in exchange for continued Rupert family control, and the careful cultivation of BEE partners. Remgro's restructuring, reflective of broader post-apartheid patterns, involved consolidation of ownership and control in sectors where possible, while shedding less profitable businesses. The latter is starkly reflected in its destructive unbundling of South Africa's largest ever engineering group, Dorbyl, undertaken in the context of unfavourable policies for engineering and managerial maladroitness and self-interest. The chapter also briefly touches on the influence of Remgro's investment holding company model favoured by many emerging BEE groups involving growth through the acquisition of stakes in existing businesses, rather than net new fixed investment.

Chapter 7 details the fundamental post-apartheid restructuring of the South African steel sector in the context of a global consolidation of iron ore and steel that saw ArcelorMittal emerge as the world's largest steel group in a process of debt-fuelled mergers and acquisitions (M&As). It deals with the consequences of Iscor's transition to foreign ownership as a subsidiary of ArcelorMittal and more briefly with the unbundling of Anglo's Highveld subsidiary. It reflects how the attainment by Iscor management of the objective of privatisation led to mounting post-privatisation inefficiencies compounded by the hubristic Saldanha expansion.

Unbundling of Iscor to “unlock shareholder value” became an attractive escape route from mounting financial difficulties amid rising iron ore prices and the introduction of foreign ownership to assist with its troubled steel operations. The chapter illustrates that few if any of the putative benefits of privatisation and foreign ownership, predicted by orthodox analyses, have materialised. ArcelorMittal has engaged in monopolistic pricing practices notwithstanding cost advantages derived *inter alia* from low cost iron ore and electricity. Rather than introducing greater efficiencies there has been a striking pattern of underinvestment, plant failure and rising costs of production. Similarly destructive patterns are evident from Anglo’s sale of its Highveld subsidiary Systemic underinvestment by foreign owners has been the primary cause of deep crisis in the South African carbon steel industry following the global financial meltdown. By contrast foreign ownership of Columbus stainless steel has proved more responsible and sustainable. The chapter also deals with the significance of a process of contestation that erupted in 2009 over claim to iron ore rents embedded in the concessional supply arrangement afforded Iscor upon its unbundling. The battle over who should benefit from these rents: Anglo and its shareholders; a controversial politically connected third party claiming to advance BEE; or downstream steel consuming sectors are highlighted as indicative of broader patterns within South Africa’s post-apartheid political economy.

Chapter 8 deals with the unbundling of the three major engineering subsidiaries that had developed under Iscor, Anglo and Rembrandt control: Scaw, Boart and Dorbyl. It traces the impact of post-apartheid bargains struck and consequential policies in the context of the long term decline of gold mining, conglomerate managerial ineptitude and complacency, low public investment expenditure and the lack of a co-ordinated national strategy for reorientation and development of engineering. As

Anglo and Remgro faced increasing pressure to maximise and “release” shareholder value, they engaged in the destructive unbundling of their engineering subsidiaries. Unbundling occurred in the context of global consolidation and specialisation in engineering and declining domestic profitability under conditions of low public investment and trade liberalisation. The chapter reflects how Scaw responded to weak domestic demand by developing and internationalising its grinding media business into the largest in the world, albeit without securing the underlying technology involved. However, shareholder pressure on Anglo to narrow focus and raise returns saw it dispose of Scaw’s international operations while heavily indebted and then selling the South African business to the IDC. A similar pattern of destructive unbundling ensued with Boart, amid longstanding conglomerate complacency with respect to technological developments in rock drilling and plummeting sales to South Africa’s declining domestic gold mines. Rembrandt’s (subsequently Remgro’s) control of Dorbyl saw a brief effort over the early 1990’s to make a shift from heavy to light engineering amid weak domestic investment. However, management was neither able to turnaround Dorbyl’s domestic manufacturing operations or to viably run its import-intensive automotive parts and steel trading businesses. An opaque process of unbundling ensued as Remgro sought to “release value to shareholders” through a collusive compact between major shareholders and a handful of senior executives. It also reflects how BEE has unfolded in mining and SOE procurement practice in a form that introduces favours imports rather than domestic manufacturing and employment.

In conclusion Chapter 9 argues that South Africa’s post-apartheid bargains have given rise to a process of corporate and industrial restructuring at odds with the promise of higher and more productive fixed investment in the post-apartheid

economy, supported by a mixture of interests, ideology and selective appeals to scholarship. Rather a process of destructive unbundling and restructuring has ensued. Not only has it failed to address the weaknesses of apartheid industrialisation, reflected by a substantial but inadequately competitive engineering sector. It has also led to a profound weakening of some of inherited strengths, manifested by underinvestment and crisis in the steel sector. A number of areas are identified for further research. One particularly useful area may be comparisons with countries that have significant political economy similarities, such as Malaysia. The research also has important implications for policy. It reflects how the scope for mounting industrial policy is constrained by two broad capitalist groupings, neither particularly oriented towards advancing accumulation through long term fixed investment in a more diversified manufacturing sector: a traditionally white corporate sector oriented to short-term shareholder value, and an aspirant emerging black capitalist class growing chiefly through transfers of the existing capital stock of the economy. If industrialisation is to meaningfully proceed it would appear to require the crafting of new bargains, and the political conditions that make the crafting of such bargains possible.

Chapter Two

A political economy framework

This chapter sets out a political economy framework for interpreting South African industrialisation in the context of major shifts in development economics. It briefly traces a “golden thread” of cumulative causation theory running through classical and structuralist economics as well as the limitations of this canon, which opened the door for a “neoliberal revolution”. It critically assesses major developments in both neoclassical market-imperfections and institutional economics, and the heterodox Developmental State literature in response to the challenges posed by the East Asian ‘miracle’ experience, concluding that both suffer from significant weaknesses. Rather it heuristically invokes Hirschman’s concept of “micro-Marxism” emphasising the need for context-specific analysis that recognises the dynamic interaction between economic and political-institutional forces. In the process it seeks to concisely link major shifts in development economics to their influence on South African scholarship, policy and institutions which are in turn elaborated more fully in subsequent chapters. In doing so it emphasises that while broad shifts in development economics have exerted a significant influence over South African industrialisation debates and policy, this influence has been uneven, and sometimes characterised by the superimposition of inappropriate conceptual models over South African reality. A three-pronged political economy framework is set out stressing the continued relevance of cumulative causation theory; a conception of the firm in late development emphasising the compulsions from both markets and states that shape its strategic orientation and the nature of industrial capabilities it develops; and modern theories of political economy that forge a link between the economic and the political-institutional.

Section 2.1 briefly traces a “golden thread” running through post-war classical and structuralist literature that conceptualises late industrialisation as a process of circular and cumulative causation with the state co-ordinating structural change from low-productivity to increasing return sectors. This rich economic analysis of structural transformation was not matched however by a correspondingly sophisticated political-institutional analysis. Section 2.2 reflects the rapid neoliberal revolution of the 1980s and associated Washington Consensus policies, bolstered by slowdown and crisis amongst many developing countries considered to be pursuing inward-oriented structuralist strategies, which were contrasted with faster growth of ostensibly free market export-oriented east Asian economies. This neoliberal revolution unevenly but increasingly influenced South African scholarship and policy from the mid-1980s, despite mounting evidence that east Asian export-oriented industrialisation involved extensive intervention by “Developmental States” and disappointing results from Washington Consensus reforms. Section 2.3 discusses how both orthodox and heterodox economics responded to the challenges posed by the east Asian experience. While orthodox economics was compelled to relax its more unrealistic assumptions and recognise the presence of extensive market imperfections and the importance of institutions, the heterodox Developmental State paradigm was challenged to develop a more generalizable theory of such a state. Drawing on the latter paradigm the post-apartheid South African state was to belatedly and inappropriately seek to cast itself as “Developmental”. The limitations of both the orthodox market imperfections and new institutional economics, and the Developmental State literature are considered. Informed heuristically by Hirschman’s concept of “micro-Marxist” analysis section 2.4 sketches discusses three relevant modern theories of political economy. Section 2.5 draws together a three-pronged political economy framework stressing the

continued relevance of cumulative causation theory; a conception of the firm in late development emphasising the compulsions from both markets and states that shape its strategic orientation and the nature of industrial capabilities it develops; and modern theories of political economy that forge a link between the economic and the political-institutional.

2.1 The strengths and weaknesses of classical and structuralist development economics

A dominant consensus that established itself in South African economic history, as elaborated in Chapter 4, is the claim that apartheid industrialisation represented a case of import substituting industrialisation (ISI) that faltered and ultimately failed. This reading has had consequences both for policy and scholarship. In policy circles it has been drawn upon to support extensive post-apartheid trade liberalisation and deregulation, while serving to marginalise a rich body of classical and structuralist thinking from orthodox scholarship. This section briefly assesses both the strengths and weakness of classical and structuralist development economics, arguing that a “golden thread” of cumulative causation theory remains relevant to contemporary industrialisation.

2.1.1 Catch-up, structural change and industrialisation

The Industrial Revolution ushered in an era of unprecedented growth in human history (Maddison 2007; Szirmai et al. 2013) with the first industrialiser, Britain, followed by a range of European countries and subsequently the United States (Chang 2002; Reinert 2008). Economic development has thus long been conceptualised as a process of industrial catch-up by less developed countries with

levels of per capita income of their more advanced forerunners. Thus for Marx, writing in the preface to the first German edition of *Capital*, Volume One:

“The country that is more developed industrially only shows, to the less developed, the image of its own future.”

(Marx 1992: 91).

The emerging discipline of “classical” post-war development economics began to set out an understanding of what rendered low-income countries underdeveloped with a view to assisting in mounting strategies to overcome such contingencies. It drew inspiration from the intolerability of a repeat of mass unemployment of the Great Depression of the 1930s, which in turn created fertile conditions for the war and from the apparent success of the Keynesian revolution in avoiding a resurgence of high unemployment in the advanced economies (Toye 2003).

Classical post-war development economics emphasised that catch-up involved a fundamental change of both the structure of the economy and the institutional arrangements necessary to facilitate such change (Myrdal 1957; Gerschenkron 1962; Kuznets 1973). Gerschenkron’s (1962) seminal work emphasised that the relative “backwardness” of a country provides the potentiality for rapid catch-up with, or even “leap-frogging” ahead of, more technologically advanced economies. Lead economies provide followers with a picture of what is possible and a potential source of technologies that have already been developed and commercialised, with these technologies embodied in readily purchasable capital equipment. Follower countries can buy and install these capital goods and enjoy the added advantage that they have the opportunity do so at a more efficient scale than their more advanced

counterparts (Gerschenkron 1962; Abramovitz 1986; Amsden 1989; Amsden and Hikino 1994). Thus “backwardness” generates a positive tension between what is and what might be. However, catch-up is an extremely discontinuous process, with the discontinuity rising with the degree of backwardness of an economy. The greater the degree of backwardness, the larger the scale of resource mobilisation required for modernisation (Gerschenkron 1962). Hence, the state would be required to play a correspondingly large role to generate new institutional arrangements which mobilise investable resources and deploy them to large-scale investments. Thus, the scale and scope of state intervention required to facilitate catch-up rises in proportion to the level of “backwardness”.

This deeply contingent view of catch-up stands in stark contrast both to subsequent neoclassical theories of “unconditional convergence” of per capita incomes based on factor-price equalisation (Samuelson 1948) or a mechanistic progression from one stage of industrialisation to the next (Rostow 1960). Thus, in a Gerschenkronian sense, development is likely to proceed very unevenly. For those countries that can rapidly develop the institutional mechanisms to mobilise its productive forces, catch-up is likely to proceed in a rapid spurt. However, such a process was unlikely to happen automatically with the potential for backward economies to be stuck in “low level development traps” (Myrdal 1957; Nelson 1957; Leibenstein 1957; Myint 1967).

Evolving post-war theories of development emphasised structural change as a dynamic process whereby labour is transferred from low productivity “traditional” sectors and activities (typically subsistence agriculture and “petty services”) to higher productivity “modern” sectors (typically but not always manufacturing)

(Lewis 1954; Syrquin et al. 1986). Because of high levels of disguised unemployment in traditional sectors, it is argued that the transfer of labour to the modern sector will raise labour productivity in both (Lewis 1954). Conceptual arguments in favour of industrialisation were cast in both “positive” and “negative” terms. The former emphasised the productivity enhancing properties of manufacturing, as elaborated in the discussion of cumulative causation theory 2.1.3 below. The latter emphasises the pitfalls of sustained reliance on primary production (and more recently on a “premature” reliance on services and on the rapid development of financial services in particular) (Prebisch 1950; Singer 1950; Palma 2005; Reinert 2008).

However, the emerging classical development economics, and subsequent structuralist analysis, manifested a major. That is, it lacked an adequate theory of the relationship between society and the state, particularly in the light of the emphasis of economists such as Gerschenkron (1962) and Kuznets (1955) on the profound institutional change required for catch-up. Thus Gerschenkron paradoxically paid:

too little attention to the domestic classes and groups whose interests the interventionist state must adequately incorporate if it is to play the central role required. Backwardness too easily becomes an alternative, technologically rooted explanation, distracting attention from the state rather than focusing upon its opportunities and constraints.

(Fishlow 2008)

2.1.2 Structuralism and the role of the state in promoting industrialisation

The role of the state in actively promoting industrialisation has long been intertwined with the concepts of infant industry protection and import substituting industrialisation (ISI) strategies. Protection, typically through tariffs, is required to allow nascent industries in relatively backward or developing countries the time to develop until they are able to compete against foreign rivals. The lineage of these arguments goes at least as far back as proponents of the need to protect domestic industries in order to catch up with Britain as the leading industrial economy of the 19th century: Alexander Hamilton and Friedrich List in the cases of the United States and Germany respectively. Substantial historical evidence has been amassed to demonstrate the extensive use of tariffs and other forms of state intervention in these cases of “early” catch-up with Britain by many of the now-industrialised North Atlantic economies (Chang 2002; Reinert 2008).

An influential school of thought that emerged out of the Economic Commission for Latin America and the Caribbean (ECLAC) conceptualised the challenge of late industrialisation in terms of structural rigidities that straddled both the domestic and international division of labour. These structuralist economists highlighted the higher income elasticity of demand for manufactured products than for primary products, based on the well-known Engels curve. Whereas advanced economies specialised in manufacturing, developing economies were allegedly locked into an international division of labour in which they specialised in production of commodities for export. Developing countries thus faced a foreign exchange constraint to industrialisation with the imports of capital, intermediate and consumption goods required outweighing commodity exports. Furthermore, large-

scale commodity exports led to currency appreciation which made manufactured exports less competitive: the “Dutch Disease” effect. In order to overcome these structural constraints developing countries such as those in Latin America required infant industry protection and other forms of industrial policy. ISI as a strategy for industrialisation was not conceptualised as import protection at all costs but envisaged a progression from import-replacement of consumer goods back to intermediate and capital goods followed by an export-oriented stage (Hirschman 1968; Fine and Rustomjee 1996).

A further limitation to reliance on primary commodity exports was a predicated long-term secular deterioration in their terms of trade relative to manufactures, as well as shorter periods of substantial instability (Prebisch 1950; Singer 1950). A “dependency” school took this line of reasoning further, questioning whether industrial development was indeed possible at all within this bifurcated international division of labour in which commodity producers were in a (possibly permanent) peripheral relationship to the core advanced nations (Blankenburg et al. 2008). The Prebisch-Singer thesis has been the subject of substantial debate. Whether and over what periods agricultural and other commodities demonstrate declining terms of trade relative to manufactures is an empirical question. Simplistically interpreted, the Prebisch-Singer thesis may have contributed to the neglect of agricultural output and exports in Sub-Saharan African (SSA) countries, which undermined their rural development, industrialisation and macro-economic stability in these countries Sender and Smith (1986)⁵. Over the 2000s there has been

⁵ While agricultural development in its earlier stages may represent diminishing returns under conditions of “disguised unemployment” anticipated by Lewis and Kaldor, there is statistical evidence that agricultural productivity at later stages is high (Szirmai et al. 2013) and indeed this is

a long and sustained period of deterioration of the terms of trade of manufactures relative in particular to primary mineral and metal products over the “commodity super-cycle” largely due in particular to China’s massive demand for commodities induced by her export-led growth strategy (Kaplinsky 2006). More recently, the Engels curve has been raised as an argument *against* industrialisation, namely that services enjoy a higher income elasticity as incomes rise, relative to manufactures (Kaplan 2015a). A simplistic appeal to the Engels curve and Prebisch-Singer relationships thus provides only limited support for the primacy of industry “over” other sectors such as agriculture.

From roughly the late 1970s, countries across a range of regions, including Latin America, South Asia and Sub-Saharan Africa, experienced increasing difficulties in sustaining manufacturing growth, generating more rapid manufactured exports and deepening the capital goods sector. Structural limitations in delivering more rapid growth and socio-economic gains and associated macro-economic imbalances were criticised by both orthodox and heterodox critics (Khan and Blankenburg 2009). Macro-economic imbalances, particularly in relation to the balance of payments, rendered a range of developing countries particularly vulnerable to a series of external shocks from the late 1970s onwards. For a number of them that had accrued large-scale external debt, oil price and interest-rate shocks pushed them into debt crises. Difficulties in sustaining industrial growth in turn reflected a number of deficiencies with the classical and structuralist development economics on at which at least some countries had based their catch-up strategies.

consistent with Lewis’ hypothesis that transfer of labour from industry to agriculture will raise productivity in both sectors.

First, was a tendency to undue “export pessimism” both in relation to manufactures and primary commodities in the context of balance-of-payment constrained growth (Sender and Smith 1984, 1986; Thirlwall 2002). Second, industrial catch-up by developing country firms has been characterised as a process of expedited learning involving financing on the one hand and compulsions on the other, for firms to rapidly acquire intangible production, managerial and marketing skills (Amsden 1989; 2001; Lall 1992). Successful cases of catch-up therefore involved a “reciprocal control mechanism” which provided conditional rents for learning (Amsden 1989, 2001; Khan and Sundaram 2000; Lall 2004; Khan 2009). However, in the light of catch-up conceptualised as a process of expedited learning, there was an inadequate treatment of the relationship between the state and capitalist groups in the critical role of disciplining rents for catch-up. Thus:

[S]tructuralist thinkers never properly addressed the issue that it is one thing to use trade and industrial policies to create rents to divert resources towards more ‘dynamic’ activities, but quite another for the state to have the institutional capabilities necessary to ensure that the capitalist elite uses those rents effectively.

(Blankenburg et al. 2008: 6)

As elaborated in Chapter 4, a dominant and enduring claim in scholarship is that apartheid industrialisation, drawing strong parallels with Latin America, reflected a case of ISI that had failed. This is notwithstanding a paucity of evidence of the influence of structuralist thinking on apartheid economic policy the coherent mobilisation of ISI as strategy in practice (Fine and Rustonjee 1996). This view has a powerful influence over post-apartheid trade and industrial policy and turned

scholarly attention away from the breadth and depth of a tradition of cumulative causation theory synthesised below.

2.1.3 Cumulative causation theory

The important yet overlooked theoretical tradition of cumulative causation theory, embodying both classical and structuralist insights, links the irreplaceable role of industrialisation in development to the dynamic productivity gains associated with manufacturing (Storm 2015). For Adam Smith (1776) manufacturing embodied a unique potential for realising increasing returns to scale due to its susceptibility to increasing specialisation of productive tasks, that is an increasing “division of labour”. However, increasing specialisation is itself subject to the extent to which there is sufficient demand for the disproportionate increases in outputs relative to inputs arising from an increasing division of labour (Smith 1776; Young 1928; Thirlwall 2002). Hence for Smith (1776: 7) “the division of labour depends on the size of the market but the size of the market depends on the division of labour”. Increasing returns are constrained by the extent of demand which in turn depends both on levels of domestic per capita income and the productivity levels necessary to tap the “autonomous” demand of export markets. Domestic per capita income is in turn an important influence on the economies of scale required to achieve increasing returns and to achieve productivity levels necessary to tap demand in export markets.

Young (1928) resuscitated Smith’s insight arguing that increasing returns in manufacturing would initiate a non-equilibrating process of cumulative growth through increasing labour specialisation. Increasing returns is most likely in

manufacturing because, unlike primary sectors, it is subject both to scale economies in production and elastic demand for its output (Thirlwall 1983). Myrdal (1957) coined the term “circular and cumulative causation” to convey the tendency of unalloyed market forces to reinforce rather than narrow unequal development between regions. Relatively developed regions would benefit from pre-existing increasing returns arising from economies of agglomeration or “spread” effects, while underdeveloped regions’ backwardness would be reinforced by negative “backwash” effects leading to divergence rather than convergence. Drawing on Young (1928), Rosenstein-Rodan (1943, 1957) advocated a “big push” strategy, predicated on the idea that the combination of technological and pecuniary externalities would render increasing returns in a single industry unviable due to inadequate demand. Therefore, there would be a need to co-ordinate the establishment of multiple industries concurrently in order to internalise both technological and pecuniary externalities.

Kaldor (1966, 1967) also gave pride of place to the role of the manufacturing sector as the “engine of growth” due to three “empirical regularities” accounting for differential growth rates across advanced economies, but also relevant to developing economies (Thirlwall 2002). First, the faster the rate of growth of manufacturing output, the faster the rate of growth of GDP due to a range of characteristics of manufacturing including strong backward and forward linkages, its unrivalled scope for capital accumulation and technological acquisition, and the realisation of economies of scale. Second, there is a strong causal relationship between the growth of manufacturing output and manufacturing labour productivity, also known as Verdoorn’s Law. This is posited to occur through processes including specialisation through the deepening of the division of labour,

investment in new technologies and learning by firms with domestic production of capital goods considered particularly important for technological progress and economies of scale (Storm 2015). Third, and echoing the Lewis (1954) model, rising manufacturing productivity raises productivity in other sectors as labour is transferred to the former without productivity loss in the latter.

As summarised by Thirlwall:

Increasing returns provides the basis of a cumulative process of economic growth based on trade, whereby increasing returns leads to greater competitiveness which leads to faster export growth. This in turn leads to faster output growth and faster productivity growth through the stimulus that faster output growth gives to capital accumulation and technical progress (including scale economies and learning by doing).

(Thirlwall 1994: 63)

A number of empirical studies are supportive of the cumulative causation hypothesis that manufacturing operates as the “engine of growth” through increasing returns. This is found for developing countries in general (Dasgupta and Singh 2005; Szirmai et al. 2013), African countries (Wells and Thirlwall 2003) and for South Africa specifically (Wittenberg 1997; Millin and Nichola 2005).⁶

⁶ Dasgupta and Singh (2005) also find that India’s software industry displays similar increasing returns to manufacturing and Szirmai et al. (2013) find evidence to suggest a relatively recent increase in agricultural productivity. This suggests that Kaldor’s laws should not be applied mechanistically and that parts of primary production and services may also embody increasing returns.

Albert Hirschman introduced wide-ranging and eclectic contributions to cumulative causation theory, most notably his concept of linkages. Hirschman's (1981) method discouraged reliance on "high" theories of economic development processes based on "prime movers", criticising both the assumption of emerging neoclassical growth theory that predicted convergence of per capita income through trade, and the lack of realism of "big push" models of state-led development. Rather he emphasised the identification of "efficient sequences" which had the potential to crowd in both technological and pecuniary externalities most notably the heuristic concept of linkages (Hirschman 1958). Backward linkages arise when domestic demand for a particular input or product is large enough to justify the minimum efficient scale of investment required. Forward linkage arises from the potential to stimulate investment using the inputs of a new investment project. For Hirschman, forward linkage was a weaker and more uncertain inducement. The strongest inducement would be provided by a "combined linkage effect" of both backward and forward linkage. Thus industrialisation could be spurred on by targeting intermediate and capital good sectors which had a strong mix of both forward and backward linkage, such as the steel and engineering sectors. For both Young and Hirschman, underdevelopment reflects the lack of dense networks of inter- and intra-industry linkages found in advanced economies. Thus the role of development policy is to "fill-in" these missing linkages, internalise externalities in production (increasing returns) and demand (pecuniary externalities) and in turn induce new ones that prompt further rounds of investment (Toner 1999).

Hirschman further extended the notion of linkages beyond the initial conceptualisation of "production linkages" represented by backward and forward linkages. Of these "consumption linkages" would likely be the slowest and least

purposive, with encouragement to further economic activity more dispersed than production linkages and also embodying the potential to transmit effects that might slow further industrialisation, such as the encouragement of luxury imports (Hirschman 1981). “Fiscal linkages” can also arise, for instance where the state taxes certain sectors (like enclave mining) in order to promote others. Hirschman further developed the concept to reflect that linkages involve interlocking “economic” and “political” relationships. Thus Hirschman (1981) articulated a “generalized” or “micro-Marxist” approach to linkages. Using “staples” or commodities as the unit of analysis he argued that particular types of commodity production may be less or more viable or developmental depending on the prevailing “sociopolitical environment”, while the specificity of the commodities being produced will themselves condition social relations and hence the prospects for the types of economic linkage formation possible. Hirschman’s “generalized linkage” or “micro-Marxist” approach thus reflects a shift from understanding cumulative causation largely in terms of economic multiplier and spillover effects to cumulative causation as a process involving a constant interaction between evolving “forces” and “relations” of production. It thus foreshadows more recent theories of political economy, discussed in Section 2.4, which by various routes have similarly arrived at the need for an integrated analysis of the economic and the political-institutional, located in the historical and material specificities of the economy being analysed.

2.2 The neoliberal counter-revolution and contestation over the East Asian ‘miracle’

The difficulties experienced by a range of developing countries in sustaining industrialisation and raising manufacturing exports, uniformly dubbed import

substituting industrialisation (ISI), was increasingly contrasted by the ascendant neoliberal movement with an ostensible market-led export-oriented industrialisation (ESI) unfolding amongst the East Asian “miracle” economies. As discussed in Chapter 4, this narrative of virtuous market-based ESI contrasted with failed ISI was superimposed onto debates over South Africa’s transition, notwithstanding limited evidence of any coherent ISI strategy having been mounted under apartheid.

Mounting neoclassical criticisms of inward-oriented development patterns identified extensive market distortions as the primary cause of these difficulties. Within this “market distortions” framework, it was contended that a range of policies that diverted product and factor markets from their market-determined outcomes created a series of systematic and anti-developmental biases. Tariffs, quotas and licences on imports acted as distortionary departures from static allocative efficiency. They discouraged more intensive use of abundant resources and factors of production, such as labour, and encouraged a disproportionately capital-intensive industrial structure (Little et al. 1970; Krueger 1974, Balassa 1982; Bhagwati and Srinivasan 1982). Capital markets were said to be subject to similar distortions known as “financial repression” the practice of keeping real interest rates artificially low and directing credit to sectors deemed strategic by state planners, preventing capital from being allocated to its most productive uses (Mckinnon 1973; Shaw 1973). Bolted on to this economic analysis was a crude set of “political economy” assumptions that distortions gave rise to widespread “directly unproductive” or “rent seeking” activities (Krueger 1974; Bhagwati and Srinivasan 1982). In the face of limited empirical evidence of large welfare losses due to static resource allocative inefficiency from rents, it was argued that the

magnitude of social waste represented by rents are magnified by the resources expended to secure them (Krueger 1974). To the extent that any “market failures” existed, these were likely to be outweighed by “state failures” (Kreuger 1974, 1990a). Hence, for policy purposes “directly unproductive” activities or rents could be assumed to arise almost exclusively from state interventions in markets, be of significant scale and be axiomatically damaging to the economy.

The emergence of a range rapidly growing East Asian economies, exhibiting particularly high rates of export growth, were initially trumpeted as successful examples of market-oriented policies in general and export orientation in particular. Virtuous East Asian economies were contrasted with the import substituting regimes of other regions with a particular contrast drawn with Latin America (Kreuger 1990b). Similar comparisons were drawn between South Africa (assumed to be much like Latin America) and East Asia (Holden 1992; Fallon and de Silva 1994).

However, mounting evidence from detailed studies of individual East Asian countries began to demonstrate that unprecedentedly high rates of growth and manufactured exports, far from being textbook examples of free-market policies, involved extensive state intervention. East Asian success reflected not the superiority of undistorted export-oriented markets, but the successful culmination of overlapping strategies of import replacement and promotion of exports (Amsden 1989, 2001; Chang 1993; Wade 1990; Woo Cummings 1999). More generally, a range of countries that experienced rapid post-war progress with industrialisation and GDP growth over a sustained period of time were characterised by extensive state intervention (Amsden 2001).

Market versus state-based explanations for success and failure were brought to a head in the World Bank's 1993 "East Asian Miracle" report, which sought to reconcile evidence of extensive intervention with market-oriented policies in general and export-oriented policies in particular (World Bank 1993). This involved intellectual gymnastics that sought to demonstrate that, rather than being a product of extensive state intervention, East Asian export-led success was a product either of non-interventionist policies or policies which "cancelled out" anti-export biases. The resulting argument that policy "simulated" non-distortionary market conditions represented an attempt to preserve a deeply compromised paradigm (Wade 1996). Despite mounting questions about the credibility of its scholarly basis, the international financial institutions continued to advocate a package "Washington Consensus" policies (Williamson 2009), whose key features included macro-economic stabilisation, liberalisation of product and factor markets, deregulation (especially of finance), privatisation and opening up to foreign direct ownership.

The East Asian "miracle" debate posed challenges for both orthodox and heterodox scholarship. Neoclassical economics was compelled to revisit its extremely narrow economic assumptions centred on a market distortions framework, and to begin to engage with the importance of institutions in the economic development process. While cases of rapid catch-up involved extensive state intervention, this was only achieved by a relatively small number of countries. Heterodox economists, having demonstrated the extensive role of the state in successful catch-up in a range of east Asian economies in particular, were left with the problem of explaining how the introduction of, often formally similar, policy instruments in one context could have

such vastly different outcomes in others. Shapiro argues that this indeterminacy was more damaging for heterodox than orthodox economics:

The lack of a theory of the state was less problematic for neoclassical theory, which at least assumed that markets function and presupposed a minimal role for government. In contrast, the omission of the state as an explicit actor is a fundamental flaw in the development theorists' argument, since they relied upon the state as an agent of change and presumed that it had the requisite political autonomy and administrative tools to carry out the task

(Shapiro 2007: 2–3).

2.3 Developments in orthodox and heterodox economics

This section traces selected developments in orthodox and heterodox relevant to post-apartheid industrialisation, highlighting where these developments have influenced post-apartheid industrialisation debates and outcomes. First, it assesses the extent to which efforts within neoclassical economics to recognise the presence of selected market failures and imperfections and to incorporate the role of institutions has adequately addressed weaknesses in the canon. Second, it critically reviews the heterodox Developmental State paradigm. Third, it concisely reviews influential perspectives on the firm in late development. It contrasts the profound influence of the “principal-agent” theory of the firm in underpinning a “shareholder value revolution” that swept South Africa over the post-apartheid period with a

“capabilities-based” conceptualisation of the firm intrinsic to industrial catch-up through learning.

2.3.1 From market distortions to market imperfections

In response to both theoretical and empirical challenges “revisionist” neoclassical economists began to elaborate a “non-generalizable ‘second-best’ world full of market failures and replete with multiple equilibria” (Storm 2015: 686). Market failures or imperfections which might justify industrial policy intervention ranged over areas such as increasing returns to scale, Marshallian externalities, knowledge spillovers, coordination failures and information asymmetries. The existence of various market imperfections introduced, at least in theory, the case for state intervention in markets often seeking to reprise classical or structuralist arguments in neoclassical form. Information asymmetries may induce banks to ration credit to particular classes of borrowers (Stiglitz and Weiss 1981). The existence of externalities and coordination failures was used to revive Rosenstein-Rodan’s Big Push argument (Murphy et al. 1989). Scale economies and imperfect competition create a potential rationale for strategic trade policy (Krugman 1987). Market imperfections have served to underpin a “post-Washington consensus” proposed by Stiglitz (1998) as a progressive theoretical advance while exerting a questionable impact on policy alternatives and advice by international financial institutions such as the World Bank (Fine 2001).

There has been an influential application of market imperfections economics to industrial policy debates. Within this perspective industrial policy is cast as a reluctant but necessary choice with the state “doomed to choose” certain activities

rather than others due to circumscribed market failures (Hausmann and Rodrik 2006). Industrialisation may be impeded by various appropriability problems, information asymmetries and coordination failures. There may be suboptimal investment in feasible new production opportunities due to the inability of the first investor to fully appropriate the gains from a newly identified market opportunity as new entrants rapidly erode profits. Thus temporary subsidisation may be required to overcome this appropriability problem analogous to time-bound rents embodied in patent protection. An asymmetric information problem arises between entrepreneurs with knowledge of a feasible production opportunity which may require such subsidisation or a complementary public good. To maximise prospects for success industrial policy should be conducted through processes of “self-discovery” that reduce information asymmetries between potential investors and state officials, ideally freed from political interference (Hausmann and Rodrik 2003; Rodrik 2004, 2008, 2009). In a similar vein, albeit on a weaker conceptual footing, Lin’s (2012) “New Structuralist Economics” has added to this literature. The recasting of old structuralist ideas in the new neoclassical garb of market imperfections represents an advance on the restrictive assumptions of the preceding market distortions framework. However, it remains subject to and reproduces major weaknesses of the neoclassical paradigm.⁷ These limitations are discussed in greater detail in relation to South African industrial policy debates in Chapter 4.

⁷ See Fine and Van Waeyenberge (2013) for a comprehensive critique of Lin (2012), and Wade (2012) for a more sympathetic reading of the “door-opening” impact of Lin’s contribution.

2.3.2 The New Institutional Economics

A second major area of development in orthodox scholarship has been an evolving New Institutional Economics (NIE) effort to theorise links between the economic and the political-institutional in the economic development process. The NIE has drawn heavily on neoclassical economic assumptions applied to formal and informal institutional arrangements with a strong emphasis on the stability of property rights, individual rationality and optimisation, and market determined outcomes which minimise economic rents (Gray 2016). Coase's theory of transaction costs has been transposed from firms to institutions, with economic development conceptualised as the transition from high to low transaction cost institutional arrangements, allowing for the more effective operation of markets in the process (Coase 1937, 2013; Williamson 1998). However, the transition from high to low transaction costs institutions is subject to fundamental problems of collective action in which organisations, often comprised of elites, may threaten the stability required for economic activity and prevent the transition to more politically inclusive institutional arrangements said to generate greater economic efficiency through processes of economic and political competition and innovation (North 1990, 1993; Olson 1993).

While low political inclusivity, often characterised by collusive bargains between elites, may be important to ensure social stability and prevent the outbreak of violent conflict at low levels of development, it is an obstacle to higher growth (North et al. 2009). Thus development involves the transition from *Limited access orders* to *Open access orders* (North et al. 2009) or from *Extractive* (or Absolutist) to *Inclusive* (or Pluralistic) institutional arrangements (Robinson and Acemoglu 2012).

Open access or inclusive institutions are associated with western liberal democratic capitalism and conceptualised as both the cause and the consequence of economic development. Thus the NIE has thus served to underpin the idea that institutions associated with western liberal capitalist democracy are necessary for growth to take place (Gray and Khan 2010; Gray 2016).

The conceptual framework provided by the NIE has in turn been used as the scaffolding for the policy prescriptions embodied in the “Good Governance” agenda advanced by the World Bank and other international development institutions. Three elements of the good governance agenda stand out. First, it emphasises the importance of the stability of property rights for a market economy to function. Second, it draws on old theories of rent seeking which asserts that state or politically created rents are necessarily likely to be welfare-reducing. Third it argues that democratic rights and institutions lower transaction costs through greater accountability (Gray and Khan 2010).

Whereas a positive link between measures of good governance and growth have been asserted in a number of econometric studies these studies have been subject to substantial criticism on both empirical and conceptual grounds. The most fundamental critique is the direction of causation between “good” institutions and growth. Ostensibly poor institutions are manifest in both high and low growth developing countries. However, it is at least as plausible that the attainment of institutions associated with good governance in higher income countries, are the consequence rather than the cause of growth rather than the reverse (Gray and Khan 2010; Khan 2010; Sundaram and Chowdhury 2012).

A related “Varieties of Capitalism” (VOC) paradigm also takes on a number of the assumptions adopted by the NIE (Allen 2004), initially directed towards distinguishing institutional differences between advanced economies (Hall and Soskice 2001). The original distinction drawn by the VOC was of two distinct forms of capitalism amongst advanced economies, manifested by differences in institutional arrangements in industrial relations, corporate governance, firm rivalry, and forms of innovation. Liberal Market Economies (LMEs) such as the United States and the United Kingdom are said to be characterised by arms-length market oriented arrangements compared to the more co-operative relations said to prevail under Coordinated Market Economies (CMEs) such as Germany and Japan (Hall and Soskice 2001). The VOC paradigm has been adopted with respect to developing countries with an associated proliferation of sub-categories and in turn specifically to South Africa (Nattrass and Seekings 2010; Nölke and Claar 2013). The VOC approach has been criticised on the grounds of its neglect of the generalised increase in influence of the financial sector, lack of attention to the state and non-firm social actors, a limited appreciation of the manner in which developments in global capitalism influence the national, and excessive reliance on taxonomies of VOCs rather than detailed analysis of causation within specific economies (Ashman and Fine 2013).

As argued in Chapter 4 the VOC and elements of the NIE have been inappropriately applied, either explicitly or informally, to characterise post-apartheid industrialisation as a collusive corporatist arrangement between business, labour and government “insiders” that prevents the entry of “outsiders” thus impeding markets from moving to a closer approximation of perfect competition.

2.3.3 The Developmental State paradox

Evidence of the success of state-led industrialisation, particularly in a range of East Asian economies (Johnson 1982, Amsden 1989, Wade 1990, Woo-Cummings 1999), appeared at first to “solve” the heterodox problem of the absence of an explicit theory of state-society relations. For Amsden (1989, 2001) the defining feature of a Developmental State is to systematically intervene to get relative prices “wrong” in relation to market-determined outcomes to advance industrialisation through “learning”. That is the expedited acquisition by firms of the managerial, production and logistical capabilities required to import, adapt and adopt existing commercial technologies. Central to disciplining the expedited acquisition of these capabilities was a “reciprocal control mechanism” that used various forms of rents both to reward success and punish failure. For Evans (1995) the ability of the state to credibly wield these instruments involves the cultivation of an “embedded autonomy” combining close relations between the state and industrialist groupings on the one hand with independence of the state to impose long term developmental policies. Institutional arrangements said to typify a Developmental State include the cultivation of a meritocratic elite and coordination if not imposition of a national plan by a pilot agency that sits at the apex of state decision making (Johnson 1999).

These features said to define a Developmental State reflect an unresolved tension in the Developmental State literature between an “economic” school that focuses on the policies pursued in order to forge particular linkages in the economy and a “political” school that focuses on the characteristics of the state necessary to assert itself “autonomously” over social groupings (Fine and Rustomjee 1996; Fine 2010). However, the putative “autonomy” of the state lies at the heart of the weakness of

the Developmental State paradigm as it conceives of the state as separable from class relations in society (Radice 2008). For instance, Chibber (2003) demonstrates how attempts by the post-independence Indian government to mobilise a programme of state-led industrialisation were vigorously and successfully opposed by domestic industrialists, notwithstanding the presence of a capable bureaucracy and a national planning agency. A primary cause of failure of state-led strategies of industrialisation hence arises from a mismatch between the balance of political forces in society and the mechanisms through which the state seeks to advance industrialisation (Di John 2009; Khan and Blankenburg 2009).

As Fine and others argue (Fine 2010; Ashman et al. 2013a) there has been a particularly inappropriate rhetorical claim to Developmental State status in South Africa towards the end of the Mbeki presidency even as the state was in practice acting most unlike a Developmental State.

2.3.4 Perspectives on the firm in late industrialisation

Despite being the fundamental unit of capitalist development the nature and role of the firm in late industrialisation has often been neglected or relegated to implicit assumptions (Chandler 1992). Neoclassical economics assumed firms embodied some production function, without any initial theory of the firm or indeed why firms should exist as distinct from economic activity taking place through a mass of arm's length transactions between individuals. Coase's (1937) answer to this puzzle was that firms existed to minimise transaction costs and would form when it was cheaper to bind factors of production together than to procure them from the market.

Penrose (1959) initiated a paradigm for understanding the firm, entirely different from a neoclassical perspective. Contrary to the neoclassical assumption that firm size is determined by an underlying production function, she argued that firms comprise a bundle of productive resources which are mobilised by managers who perform both a coordination and entrepreneurial function, with no theoretical limit to the size of the firm. Chandler (1994) argues that large firms led the “third industrial revolution” in the North Atlantic economies and the US in particular.

Building on the tradition of a resource-based or capabilities conception of the firm Amsden formulated a more complete theory of the firm in late development. Firms in late development are fundamentally engaged in a process of expedited learning in relation to existing technologies rather than the development of frontier technologies, until fairly late in a developing country’s development (Amsden 1989, 2001). This involves the acquisition of capabilities or “knowledge-based assets” (Amsden 2001: 2). These knowledge-based assets comprise “a set of skills that allows its owner to produce and distribute a product at or above prevailing market prices (or below market costs)” (Amsden 2001: 3) straddling three main categories:

... *production capabilities* (the skills necessary to transform inputs into outputs); *project execution capabilities* (the skills necessary to expand capacity); and *innovation capabilities* (the skills necessary to design entirely new products and processes).

(Amsden 2001: 3 original emphasis)

Despite the emphasis of neoclassical economics on small firms as the benchmark of economic activity, the large firm has been identified as a primary agent of expedited

late industrialisation. Large firms have played a fundamental, albeit far from identical, role in all cases of East Asian catch up: Japan, South Korea, Taiwan and Singapore and even in Hong Kong the ostensible “laissez faire” outlier and more recently China (Johnson 1982; Amsden 1989, 2001; Wade 1990, Nolan 2001, Studwell 2013; Milhaupt and Zheng 2014). Two important forms of large firms identified are large private diversified conglomerates (in Japan and South Korea in particular) and large public enterprises (in Taiwan, South Korea, Singapore and China in particular). For Amsden (2009) there is also an innate superiority of domestic over foreign owned large firms for reasons ranging from policy sovereignty to their putative greater entrepreneurialism. A substantial literature has thus developed emphasising that the orientation and strategies of large firms are a major determinant of form and pace of growth in development (Chandler et al. 1999; Amsden 2001; Chabane et al. 2006; Milhaupt and Zheng 2014)

This raises the question of why large firms in particular countries and at particular conjunctures have played a central role in driving rapid catch up whereas in others (like South Africa) they have been associated with weak industrial performance and limited diversification. Late industrialisation associated with rapid technology acquisition by large firms have been linked to institutional arrangements that are very different from the “maximum competition” espoused by orthodox economics. Important factors have been a combination of state support or rents which help underpin the costs of technology acquisition, domestic rivalry in the form of dynamic oligopolistic competition combined with strong pressures to export (Amsden 1989, 2001; Amsden and Singh 1994; Nolan 2001; Chabane et al. 2006).

The conceptualisation of firm as embodying a principal-agent “problem”, emerging from the finance literature, was said to arise from the separation of ownership and

control in modern joint stock companies. Inadequate incentives on management to make the most efficient investment decisions arose because of information asymmetries and the often dispersed nature of shareholders in turn inefficient capital allocation within the firm, and suboptimal returns which should flow to shareholders, allowing them to make more efficient investments elsewhere in the economy (Jensen and Meckling 1976; Fama and Jensen 1983). This principal-agent based theory of the firm has had a profound influence by providing the intellectual scaffolding for the “shareholder value revolution” and driving a shift in non-financial firms from a “productionist” focus on improving processes and products to a “financialised” orientation focussed on meeting the short-term expectations of shareholders (Froud et al. 2006). In a shift from an “antiquated” model of the diversified conglomerate, firms were pressed by institutional investors to focus on their “core competencies” and divest “non-core” businesses. The “market for financial control” needed to be deepened to allow for easier takeover of firms deemed to be financially underperforming, if necessary via hostile takeover. The interests of shareholders and managers were to be aligned through remuneration mechanisms that linked executive pay to share price performance and proportion of free cash flow that could be directed back to the shareholders. New “good corporate governance” arrangements emphasised mechanisms that would increase the information flow from investee firms to institutional investors and their influence through the ability to appoint non-executive directors. The shareholder value revolution, enjoying intellectual support from the principal-agent theory of the firm, has been deeply criticised as a fundamental part of the phenomenon of financialisation, involving the siphoning of potentially investable funds out of companies to shareholder across developed and developing economies alike (Singh 1997; Lazonick and O’ Sullivan 2000; Krippner 2005; Crotty 2006; Singh et al. 2005;

Epstein 2006; Froud et al. 2006; Milberg 2008; Mohamed 2010; Studwell 2013; Lazonick 2015).

The literature on alternate and evolving perspectives on the firm has important implications for industrialisation and specifically for this study. It suggests that large firms are a fundamental institution, if late industrialisation is to be expedited. There is substantial evidence to suggest that large firms in general and often large diversified conglomerates have been irreplaceable agents of rapid late industrialisation through economies of scale and scope (Johnson 1982; Amsden 1989, 2001; Wade 1990, Nolan 2001, Studwell 2013; Milhaupt and Zheng 2014). However, it by no means follows that large firms automatically foster expedited catch-up or that there is any ideal form of the firm as an institution independent from the specific political economy in which it operates. Whereas the large diversified conglomerate was central to Japanese and South Korean industrialisation at a particular conjuncture, the “Global Big Business Revolution” has encouraged both scale and specialisation along value chains (Nolan 2001). This suggests that appeals to some or other “ideal type” of firm, other than emphasising the importance of scale, such as narrowly focussed versus diversified conglomerate or domestic versus foreign owned should not be applied mechanistically. Rather the impact on industrialisation of the agency of the firm in general, and large firms in particular, should be understood as depending on compulsions from product and factor markets in combination with those constructed by the state, in shaping its strategic orientation and the nature of industrial capabilities it develops under specific domestic and global conditions.

2.4 Modern theories of political economy and the dynamic relationship between the economic and the political-institutional

The purposive review of the evolution of relevant elements of both orthodox and heterodox literature above, suggests that neither the New Institutional Economics nor the Developmental State Paradigm provide an adequate conceptualisation of the dynamic interaction between the economic and the political-institutional in the industrial development process. Rather an appropriate starting point for forging such a conceptual link can be traced from Marx's emphasis on the dynamic interaction between the development of both the "forces of production" and "relations of production" in the emergence and evolution of capitalism. Thus Sender and Smith (1986) construe capitalist development in Africa in the following terms:

The most significant of the long-term changes in sub-Saharan Africa ... are the emergence of capitalist social relations of production and the development of the productive forces. The focus on relations and forces of production is derived from Marx's analysis of the origins and development of capitalism, an analysis which stresses the interaction of social, political and economic processes.

(Sender and Smith 1986: 1)

As conveyed, arguably in excessively optimistic terms, by Hirschman:

If one replaces—and this does not do undue violence to Marx's thought—his "productive forces" and "relations of production" by economic and political factors, respectively, the representation of this process [of economic

development] is somewhat as follows: at any one historical stage, the economy functions within a given political and institutional framework; on the basis of and owing to this framework, economic forces left to themselves can achieve some forward movement, but beyond a certain point further development becomes more difficult and eventually is held back by the unchanging political framework which from a spur to progress turns into a “fetter”; at that point, political-institutional change is not only necessary to permit further advances, but is also highly likely to occur, because economic development will have generated some powerful social group with a vital stake in the needed changes.

(Hirschman 1971: 13)

However, the scope of analysis needs to be transposed from “the huge canvas on which Marx painted” such as the transition from feudalism to capitalism, “to smaller-scale processes of economic-political development”, namely capitalist development itself (Hirschman 1971: 14). What is of relevance here, rather than Hirschman’s optimistic assumption that the “fetters” of a particular political-institutional configuration to economic progress would be likely to galvanise influential social groups to overcome these constraints, is the emphasis on the dynamic interdependency between them. Hirschman called this analysis of the detailed interaction between the economic and the political-institutional a “micro-Marxist” or “generalized linkage” approach (Hirschman 1981: 183)

I argue that a group of modern theories of political economy, each emphasising the dynamic interdependency between Marx’s “forces” and “relations” of production, echo Hirschman’s advocacy of a “micro-Marxist” or “generalized linkage” approach and provide more meaningful insights than those articulated by either the New

Institutional Economics or the Developmental State paradigm. Three modern theories of political economy are concisely elaborated: a “systems of accumulation” approach; a “political settlements” framework and related “elite bargains” model including a critical assessment of the manner in which they have been taken up in practice. In doing so the objective is less to seek out a single framework with a perfect explanatory “goodness of fit” than to identify aspects of prevailing approaches that may be useful for accounting for disappointing post-apartheid industrialisation.

A systems of accumulation framework has emerged as a more generalised exposition of Fine and Rustomjee’s (1996) characterisation of a unique South African form of industrialisation as a Minerals-Energy-Complex (MEC). The MEC comprises a set of sectors spanning mining, energy and various heavy industries with strong input-output linkages between them and weaker linkages with other manufacturing sectors. It concurrently reflects an evolving set of relations between large-scale private capital, the state, state-owned enterprises and increasingly over the post-apartheid period: finance. This evolving sectoral structure and set of social relations is said to have impeded the development of a more dynamic and diversified manufacturing sector (Fine and Rustomjee 1996; Ashman and Fine 2013; Ashman et al. 2013a). The conceptualisation of the MEC, as elaborated in Chapters 3 and 4, as part of a broader but loosely articulated systems of accumulation approach, emerged in part from a critique of the appropriateness of the rapidly proliferating Developmental State literature as a suitable frame for analysing apartheid industrialisation and post-apartheid policy options. It also emerged from a rejection of the projection onto the South African economy of inappropriate generalising templates whether of orthodox or heterodox origin. In

particular, the characterisation of apartheid industrialisation as a case of “failed import substituting industrialisation” and associated exaggeration of the role of trade policy has crowded out a more detailed historical analysis demonstrating that state owned enterprises (SOEs) played a more determining role in shaping apartheid industrialisation (Fine and Rustonjee 1996; Ashman et al. 2013a).

Relatively recently some more generalised features of a systems of accumulation approach have been set out.

We seek to marry abstract laws and tendencies of capitalist development with the analysis of specific class relations, social formations, and their many concrete determinations. Whilst capital has powerful tendencies which universalise features of development, these never settle nor are they reproduced in exactly the same way in concrete social formations. Analysis needs therefore to trace the particular historical development and articulation of capitalist relations.

(Ashman et al 2013: 245)

Particular emphasis is placed on the need to integrate:

1. different spatial scales of analysis in a manner which recognises that national capital relations are conditioned by global capital relations, but that they also contribute to and are constitutive of the global whole;
2. economic and political analysis (including the state) through emphasis on evolving class relations and conflicts and how these are reflected in patterns of accumulation and economic and social reproduction;

3. the role played by finance and its impact on class formation;
4. labour into the analysis through foregrounding understanding of capital as a social relation.

(Ashman et al 2013: 245)

The MEC has established itself as the primary understanding within economic historiography of how apartheid industrialisation took place and the leading alternative conceptual framework to orthodox approaches to the post-apartheid economy (Freund 2010). However, its use has sometimes slid into uncritical, contradictory or even otiose adoption. One remarkable conclusion drawn by a long-standing advocate of the MEC paradigm, particularly in the light of the emphasis of its more financialised post-apartheid form, is Padayachee's assertion that industrial diversification is not an appropriate strategy for South Africa, but rather that the country should pursue a strategy based on the further development of both finance and its minerals and energy sectors (Hart and Padayachee 2013)!⁸ For Bond the minerals-energy-complex is reflective of a "sub-imperialist" form of an "eco-destructive, consumerist-centric, over-financialised, climate-frying maldevelopment model" (Bond 2013: 266).

A political settlements approach has arisen in significant part as a response to the "Good Governance" agenda with its intellectual roots in the New Institutional Economics (NIE). It has also, however, been critical of the Developmental State paradigm. "Good Governance", that is a generalised set of institutions regardless of

⁸ "Rather than return to a mid-century model of industrial development, South Africa's (and Africa's) economic future lies with services, including finance, along with communications, transport, construction, energy and minerals" (Hart and Padayachee 2013: 81).

a country's level of development, is advocated based on the NIE idea that competitive institutions associated with the developed western economies led to competitive markets and hence to economic development. By contrast Khan and others argue that late industrialisation was expedited by institutions of "Growth-enhancing Governance" (Khan and Sundaram 2000; Khan and Blankenburg 2009; Khan 2009, 2010; 2013; Gray and Khan 2010; Gray and Whitfield 2014). While late industrialisation is not an automatic process and requires active involvement of the state to promote structural transformation from low to high productivity sectors "Growth-enhancing Governance" parts way with the Developmental State Paradigm on the grounds that formally similar state policies and institutions (in countries such as Pakistan and South Korea) have had manifestly different outcomes.

Late industrialisation involves the expedited acquisition of capabilities to master the often tacit knowledge embodied in pre-existing technologies and capital equipment, that is to say it is a process of learning. For Amsden such capabilities involve the acquisition of "knowledge-based assets" (Amsden 2001: 2). These knowledge-based assets comprise "a set of skills that allows its owner to produce and distribute a product at or above prevailing market prices (or below market costs)" (Amsden 2001: 3) straddling three main categories:

... *production capabilities* (the skills necessary to transform inputs into outputs); *project execution capabilities* (the skills necessary to expand capacity); and *innovation capabilities* (the skills necessary to design entirely new products and processes).

(Amsden 2001: 3 original emphasis)

Rents, provided in various forms by the state, are necessary to finance this process of expedited learning or acquisition of capabilities. However, these rents need to be embodied in a “reciprocal control mechanisms” in order to enforce and discipline firm effort in the expedited acquisition of the necessary capabilities (Amsden 1989; 2001). Critical determinants of whether the state is able to mobilise credible and effective reciprocal control mechanisms are the prevailing “political settlement” and the consistency of industrial policy with this settlement. A political settlement is effectively the distribution of power amongst various groups within society, reflected in both formal and informal institutional arrangements (Khan 2010). The distinguishing feature of countries that have managed to achieve expedited industrialisation has been the compatibility of their industrialisation strategies with their prevailing political settlements (Khan and Sundaram 2000; Khan and Blankenburg 2009).

The primary concern of the political settlements framework, as originally conceived by Khan, are the processes through which rents accrued as part of the accumulation process are channelled towards productive investments and acquisition of technological capabilities in manufacturing, that is to say industrialisation. (Khan and Sundaram 2000; Di John 2009; Khan and Blankenburg 2009; Gray and Whitfield 2014). However, much subsequent adoption of the concept has profoundly watered down the centrality of industrialisation to development. For instance, very substantial research output of two research programmes which use the concepts political settlements and elite bargains extensively: the Political Settlements Research Programme (PSRP) and the Developmental Leadership Program (DLP) numbering some 177 combined publications contains virtually no reference to industrialisation. Industrialisation is also largely absent from major surveys of the

burgeoning political settlements literature (Ingram 2014; Sen 2013; Laws 2012). This de-emphasis of industrialisation is similarly evident in recent, and I argue severely limited, applications of a political settlements framework to South Africa (Levy 2014; Levy et al. 2015).

The effectiveness of state strategies and associated rents to foster technological learning is also intimately bound up with two additional processes: securing political stability and processes of primitive accumulation. Stable political settlements are said to be dependent on bargains between elites with state formation emerging as coalitions of elites (Di John and Putzel 2009).

Looking at the political settlement focuses attention on intra-elite contention and bargaining ... on contention and bargaining between elites and non-elites ... inter-group contention and bargaining ... and on contention and bargaining between those who occupy the state and society more widely.

(Di John and Putzel 2009: 4)

Securing political stability and associated processes of primitive accumulation mediated by the state often involve rents and income transfers which may fall on either side of the boundary of legality. These processes are subject to varying forms of clientelist networks which may render certain types of strategies to foster technological learning extremely difficult or even impossible (Di John 2009; Di John and Putzel 200).

2.5 Conclusions

This Chapter has sketched out a number of major shifts in post-war development economics with two main objectives. Firstly, to highlight how shifts in development economics have influenced South African industrialisation debates and policies. This influence has been uneven and sometimes involved the projection of inappropriate and even caricatured ideas onto South African reality. Secondly, to identify an appropriate conceptual lens through which to understand the post-apartheid corporate and industrial restructuring of the steel and engineering sectors and their broader implications.

Informed heuristically by Hirschman's approach of "micro-Marxist" or "generalized linkages" analysis, a three-pronged political-economy framework is set out. It identifies a "golden thread" of cumulative causation theory that remains relevant to contemporary industrialisation, but mindful of its weaknesses. A conception of the firm in late development is advanced that emphasise the compulsions from both markets and states in shaping its strategic orientation and the nature of industrial capabilities it develops. Modern theories of political economy are drawn upon that forge a link between the economic and the political-institutional. This framework is applied to illustrate how the bargains struck over South Africa's transition from apartheid to democracy have shaped post-apartheid economic policy and institutions in ways that have fundamentally undermined fixed investment and industrial dynamism and diversification.

Chapter Three

The skewed development of steel and engineering under apartheid

By 1989 South Africa had developed a steel industry of global scale. Iscor was the 15th largest steel group internationally in production terms, excluding the socialist economies, accounting for 1.3% of global steel exports (Iscor 1989). However, the South African engineering sector entered the 1990s underdeveloped and vulnerable, having failed to overcome long-standing weaknesses notably to meaningfully develop exports. Engineering value added and employment in 1990 were respectively 23% and 30% lower than the sector's peak in 1981 (Quantec Research n.d.). Steel and engineering production had become increasingly consolidated under a nexus of control of three business groups. State-owned Iscor and the two largest private conglomerates: Anglo American and Rembrandt accounted for over 90% of steel production, 32% of engineering turnover and 38% of engineering assets by 1990 (Rustomjee 1993). As elaborated in Chapter 4, apartheid industrialisation has conventionally been linked to structuralist economic thought as a specific case of a more general pattern of failed post-war import substitution industrialisation (ISI). The development of steel and engineering under apartheid set out in this chapter is, however, more consistent with the contention that conglomerate growth reflected a strategic orientation towards fixed investment in mining and heavy industries such as steel with SOEs such as Iscor playing a dominant role. Tariff and competition policy served to promote the growth of conglomerate engineering subsidiaries through acquisition rather than net new investment, rather than to develop engineering sector growth and exports. This reading implied the need for a post-apartheid strategy for the re-orientation and

development of engineering, rather than faith that a more dynamic engineering sector would automatically arise from extensive trade liberalisation and a freer operation of the “market for corporate control”.

This chapter outlines the development of South African steel and engineering from the early twentieth century to the end of the apartheid era. Section 3.1 traces the mining roots of South Africa’s nascent steel and engineering industry and the emergence of state-owned enterprises such as steel-maker Iscor as fundamental to subsequent industrialisation in the context of economic dominance by English mining capital amid rising Afrikaner political and economic ambitions. It also describes the war-time boost to engineering. Section 3.2 sketches the post-war development of the steel and engineering sectors, highlighting developments in steel as illustrative of broader processes of conflict and compromise between Afrikaner political and English economic power that gave rise to increasing integration of private capitals and of these private capitals with state-owned enterprises. Section 3.3 reflects how the steel and engineering sector became increasingly concentrated under the control of a nexus of three business groups – Iscor, Anglo American and Rembrandt – by the early 1980s. It describes Iscor’s growth highlighting its increasing autonomy from the state over the 1980s. Anglo American’s growth through fostering and absorbing investments in heavy industries like steel and other ferrous metals and growth through acquisition in sectors like engineering is traced. So too is Rembrandt’s growth through acquisition, including in engineering, as it shifted towards an increasingly financial orientation from the late 1980s. The development of three major conglomerate engineering subsidiaries: Scaw, Boart and Dorbyl are indicative of both the acquisition of significant technological capabilities as well as fundamental weaknesses reflected in

a particular failure to diversify and more fully develop exports. Section 3.5 attributes this failure to the subordinate position occupied by engineering subsidiaries within conglomerate accumulation strategies, the failure or inability of the state to deploy instruments such as tariffs as part of any broader strategy for the development and diversification of engineering, and the permissive role of competition policy in easing growth through acquisition rather than net new investment. Section 3.6 concludes however, that these weaknesses were not reflected in the outcome of the battle of ideas and articulation of interests, as discussed in Chapter 4, that shaped post-apartheid policy.

3.1 Development of the steel and engineering sectors over the first half of the twentieth century

3.1.1 The inter-war development of the steel and engineering sectors

The discovery of diamonds near Kimberley in 1870 and gold on the Witwatersrand in 1886 initiated a process of mining and mining-linked capitalist development that has fundamentally shaped South African industrialisation (Innes 1984, 2007; Clark 1994, Fine and Rustonjee 1996; Chabane et al. 2006). Demand from mining provided the major stimulus to manufacturing in the late nineteenth and early twentieth century, with a range of backward linkages formed to supply the mining sector (Innes 1984; Fine and Rustonjee 1996; Chabane et al. 2006). Privately owned steel operations emerged for the processing of steel scrap, of which the South African Railways (SAR) was the largest source. The United Steel Corporation (Usko) was established in 1911 as a consequence of being awarded a contract for processing rail scrap (Clark 1994). Mining also generated a range of consumption linkages for the provision of consumer goods.

Organic development of nascent steel and engineering production gave way to South Africa's first state-led efforts to promote industrialisation in the mid-1920s, with two related objectives. First to diversify the economy from its overwhelming reliance on gold mining. Second to address the "poor white problem", namely to stimulate the creation of "civilised" jobs for a pool of rapidly urbanising, unskilled whites who were being displaced from agriculture (Clark 1987, 1994). Substantial prominence has been given to the role of tariffs in this industrialisation drive, embodied by the introduction of the 1925 Tariff Act by the recently formed Pact government (for example Lipton 1986; Feinstein 2005), in place from 1924 to 1933. However, the establishment of state-owned enterprises were at least as important and arguably more decisive in shaping the long-term trajectory of South African industrialisation (Clark 1994; Fine and Rustomjee 1996). The state-owned South African Railways and Harbours had been established in 1910 and an "electric kick-start" given to mining and heavy industry by the establishment in 1923 of the state-owned Electricity Supply Commission (Escom) (Christie 1984).

Under the South African Party government of 1919 to 1924, President Jan Smuts had actively sought to promote the establishment of modern large-scale steel production. English mining capital resisted such a step on the grounds that it would raise costs relative to imported British and continental steel. So too did established British trading and engineering interests. This mirrored the opposition by the private electricity producer, the British-owned Victoria Falls and Transvaal Power Company (VFTPC), to the establishment of a state-owned electricity company (Clark 1987, 1994). Ultimately the failure to attract private investors to such a costly project strengthened the case for state investment. Thus the Pact government passed the Iron and Steel Act in 1928, enabling the establishment of the South

African Iron and Steel Industrial Corporation: Iscor. Iscor's first plant came into production in Pretoria in 1934 becoming the leading supplier of rails for South Africa's rapidly growing railroad network and producing 17% of the country's steel requirements by 1935 (Clark 1994).

However, the establishment of Iscor proved to be less supportive of either of the two objectives upon which it was justified to a white electorate: to provide low cost steel to boost industrialisation and as a major source of direct employment for white "civilised" labour. Iscor's first chairman Hendrik Van der Bijl, who was also chairman of Escom, was compelled to enter into market-sharing agreements with the dominant British and European steel trading cartel. This arrangement guaranteed the cartel high profits in exchange for securing Iscor around one-third of the South African market, but failed to deliver low cost steel hindering engineering development. Van der Bijl also pursued a policy of employing black instead of white labour as far as politically possible to offset Iscor's very high capital costs. Joint ventures between Iscor and private engineering and trading interests, and later with Anglo, would form the basis for deepening collaboration over the post-war period (Clark 1994; Fine and Rustomjee 1996).

3.1.2 The rise of Afrikaner economic ambitions over the 1930s and the wartime boost to engineering

The dominance of the economy by English capital was a source of deep resentment amongst white Afrikaner elites and working classes. By the end of the Great Depression most Afrikaners were "poor white" urban workers or small-scale farmers while mining and industrial ownership was concentrated in the hands of

English capital (Lipton 1986; O'Meara 1983, 1996). A number of significant Afrikaner capitalist groups emerged over the inter-war period including Anglovaal in mining and Sanlam and Santam in finance, but remained weak relative to English capital. From 1934, the secretive Afrikaner *Broederbond* (Fraternity) began to promote a twin-pronged strategy of securing both "Afrikaner economic empowerment" and political power. This movement culminated in an *Ekonomiese Volkskongres* (Economic People's Congress) in 1939 to generate a strategy for the upliftment of white Afrikaners, under the slogan of *Reddingsdaad* (Act of rescue) with an increasing emphasis on the need to build up large-scale Afrikaner capital to countervail the weight of English oligopolies in mining, finance and industry (O'Meara 1983). The economic consequence of the *Reddingsdaad* movement was "the expansion of Afrikaner investment companies led by Sanlam, and including Santam, Federale Volksbelegings, Saambou, Bonuskor and Rembrandt, as well as the growth of Afrikaner business in manufacturing, commerce and trade" (Innes 1984: 55). The apex of the *Reddingsdaad* movement was to mobilise Afrikaners to deliver a whites only post-war electoral victory to the National Party in 1948.

The Second World War provided a significant boost to manufacturing. Engineering benefited in particular from disruptions to British and European imports which encouraged both import replacement and exports. Demand for South Africa's primary minerals and agricultural products grew as did exports of armaments and steel products. Between 1939 and 1945 manufacturing overtook mining and agriculture for the first time as the largest sector of the economy contributing 17% to GDP (Innes 2007: 56). Iscor's new Pretoria steelworks fed into a large-scale expansion of engineering oriented to wartime production needs.

Out of these wartime facilities came aircraft hangars, bridges, travelling cranes, barges, rock drills, pumps and valves, electric motors, transformers, field hospital equipment, ships' stores for the British Admiralty, thousands of kilometres of telephone and telegraph wire for the signal services

(Steel and Engineering Industries Federation of South Africa
2003: 7).

Iscor continued to expand during the course of the Second World War. It commissioned a heavy plate mill in 1943 and began construction of a greenfield integrated steel works and flat products mill at Vanderbijlpark in 1947 which would be the largest site of its future expansion (South African Iron and Steel Institute n.d.).

3.2 Steel and engineering as a site of conflict and compromise between English economic and Afrikaner political power

3.2.1 The 1940s and 1950s: rising Afrikaner economic power increasingly intertwined with English capital

The National Party (NP) electoral victory in 1948 formally ushered in apartheid and established the political conditions to give far greater effect to Afrikaner economic ambitions.

Now that the Afrikaner movement had control of the state, its leaders were able to use state power, not only to subdue black political opposition, which was mounting, but also to break the

economic domination of the English oligopolies, especially in mining, finance and industry (Innes 2007: 55–56).

Black political resistance to the legal entrenchment of racist discrimination and white privilege was bolstered by the rapid growth of a black urban proletariat and black trade unions during the Second World War and increasing radicalisation within the African National Congress (ANC). The mass resistance movement that emerged over the 1950s was subjected to brutal suppression, exemplified by the Sharpeville massacre of 1960 and subsequent banning of the ANC and the Pan Africanist Congress (PAC), creating conditions amenable to accumulation based on further mining and industrial expansion (Innes 2007).

A consolidation of Afrikaner capital and increasing interdependence between the state and English capital was forged over the 1950s. The state promoted Afrikaner financial capital *inter alia* through placing virtually all state financing with Afrikaner financial institutions with three large private Afrikaner groups in particular emerging over the post-war period: Volkskas, Sanlam and Rembrandt. The expansion of Escom's electrical capacity was used to bolster Afrikaner capital in mining. Federale Mynbou, a subsidiary of Sanlam was a major beneficiary of state support through awards of rail capacity, export licences and coal contracts to supply newly built Escom power stations. Federale Mynbou subsequently gave rise to Gencor, one of the largest conglomerate groups by the end of apartheid (O'Meara 1983).

Over most of the post-war period, Afrikaner interests in the steel sector were represented chiefly by state owned enterprises: initially by Iscor, supplemented

over later decades by the Industrial Development Corporation (IDC) established in 1939. In addition to Iscor's immediate post-war expansion completed in 1953, major expansions were undertaken at Vanderbijlpark between 1964 and 1968 (South African Iron and Steel Institute n.d.). These expansions overlapped with the establishment and expansion of a range of other state owned enterprises including Sasol (petrochemicals) and Foskor (phosphates), both established in 1951 (Clark 1994).

The establishment and expansion of state-owned enterprises from the 1950s served the overlapping roles of advancing the interests of Afrikaner capital and white labour while deepening the interdependency between English mining capital and the state. By 1950 extensive linkages between state-owned enterprises and private capital had already been established, including between Iscor and Anglo. The English-dominated mining industry was already reliant on Escom for the provision of cheap electricity, with Anglo having funded Eskom's acquisition of its erstwhile rival the Victoria Falls Power Company in 1946. By 1960 Eskom's two largest customers were Anglo and Iscor, while Anglo was Eskom's largest coal supplier. Anglo had also been Iscor's largest coal supplier since 1946 upon acquiring the African and European Investment Corporation. Joint ventures between Iscor and Anglo included co-investment in the Union Steel Corporation, African Metals and the Vanderbijl Engineering Corporation (Vecor) heavy engineering joint venture (Clark 1994, 2014). The establishment of the National Finance Corporation (NFC) in 1949 by the state, channelling short-term funds into long-term debt, was essential for the massive Orange Free State goldfields expansion spearheaded by Anglo (Fine and Rustonjee, 1996).

3.2.2 The 1960s: steel and engineering as the site of conflict and compromise between English economic and Afrikaner political power

However, resentment simmered amongst Afrikaner elites over the control of the economy by English capital, particularly the dominant role of Anglo. The steel and engineering sectors became a primary site of these tensions as Anglo entered the 1960s seeking opportunities to invest the large cash surpluses it had derived over the 1950s from its lucrative expansion into the Orange Free State goldfields. The manner in which Anglo and other corporates redeployed their profits in the South African economy from the 1960s would be instrumental in the industrial and corporate structure that emerged by the end of apartheid, and was shaped by a confluence of factors. The state had put in place capital controls to deal with intermittent balance of payments crises of both a political and economic nature. Notwithstanding these restrictions conglomerates found mechanisms to build up significant offshore holdings such as Anglo's Minorco and Rembrandt's external tobacco interests. However, the bulk of its capital was "trapped" in South Africa, compelling the private conglomerates to seek out domestic investment opportunities. In addition to fixed investment expansions in mining and heavy industry in particular, opportunities arose to acquire the interests of exiting foreign direct investors as global opprobrium towards apartheid mounted (Fine and Rustonjee 1996).

Anglo's decision in 1964 to establish its large-scale Highveld Steel and Vanadium project was seen as deeply threatening to Iscor. As part of its efforts to contest Anglo's influence in steel-consuming engineering industries and promote Afrikaner private ownership in the sector, Iscor established an investment company, Metkor,

in 1969 which in turn established holdings in a range of engineering companies.⁹ The planned Highveld project precipitated a 1965 state-sanctioned enquiry into the influence of Anglo on the South African economy under President Verwoerd (Innes 1984; Feinstein 2005). Cross (1994) demonstrates that this enquiry was both initiated by, and conducted through, the offices of Iscor itself led by its commercial manager, Piet Hoek.¹⁰ In a deeply symbolic gesture to placate mounting Afrikaner antagonism, Anglo sold a controlling share in its General Mining and Finance Corporation in 1966 to Sanlam subsidiary, Federale Mynbou. Verwoerd's successor Vorster also compromised, rejecting the recommendations of the "Hoek Report" in favour of strengthening ties between the internationally embattled apartheid state and English big business (Giliomee 1992; Cross 1994).¹¹ This was in part because the apartheid state felt it needed Anglo's support to further its ambitions for defence investment through Armscor, established in 1967 to counteract international sanctions on arms sales to South Africa (McCarthy 1999). The accommodation between Iscor and Anglo is reflective more broadly of an understanding forged between, and intertwining of, large-scale English and Afrikaner private and public capital which *inter alia* reflected the side-lining of smaller scale Afrikaner capital and its potential voice in advocating policies more favourable to the development of sectors outside of heavy industry (Fine and Rustonjee 1996; O'Meara 1996).

The "collusive alliance" between Iscor and Anglo had fundamental implications for the further development of the steel and engineering sectors (Cross 1994). In steel

⁹ These included Wispeco, African Gate and Tube & Pipe Industries (Cross 1994: 92).

¹⁰ Hoek was a member of the secretive Afrikaner *Broederbond* (Brotherhood) society and stood on the *verkrampste* (conservative) side of Afrikaner nationalism with a deep suspicion of the dominant role of Anglo in the economy (Cross 1994).

¹¹ Ultimately the "Hoek Report" was shelved and whatever recommendations it made never released to the public (Cross 1994; Innes 2007).

Anglo agreed to focus Highveld's capacity on product lines complementary to rather than in competition to Iscor's, that is, heavy sections rather than plate. These developments formed the basis for oligopolistic control of the domestic steel industry that would subsequently be deepened. The intertwining of Iscor and Anglo interests in engineering were further stimulated by government concerns over the future of South African subsidiaries of the British Steel Corporation (BSC) after the latter was renationalised by the incoming Labour Government in 1967. Anglo was a major shareholder in a number of BSC's South African engineering subsidiaries. A joint venture – International Pipes and Steel Investment South Africa (IPSA) – was established between Anglo and Iscor (via Metkor) to take over BSC's South African subsidiaries “which in turn controlled roughly 60 other companies” (Cross 1994: 94) representing many of the country's major steel-consuming engineering companies.

These included major shareholdings in some South African companies, including a 100% holding in Baldwins, the second largest steel merchant in South Africa, a 49% holding in Stewarts & Lloyds, the biggest South African manufacturer of tubes and pipes, and a 43% interest in Dorman Long (Africa), South Africa's biggest structural engineering company.

(Cross 1994: 93)

Thus, by the late 1960s, Iscor and Anglo had established their overwhelming dominance over the domestic steel industry and jointly represented the largest single presence in steel-consuming engineering companies. This nexus, in which Rembrandt would become a major participant, would be strengthened over the subsequent decades.

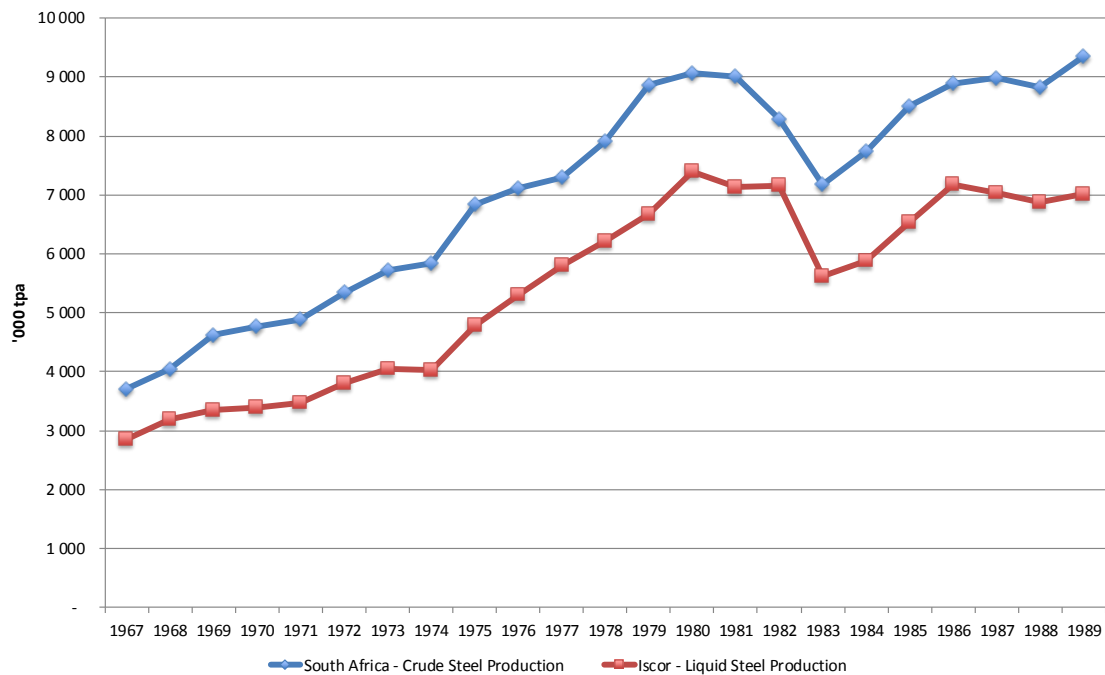
Other independent steel and ferrous metals companies also emerged or grew over the 1960's. They included the Cape Gate Group, producing a range of wire products, the RMB Alloys ferrochrome project and Southern Cross Steel producing stainless steel (Fine and Rustonjee 1996; South African Iron and Steel Institute, n.d.). With the exception of Cape Gate these would subsequently be absorbed into conglomerate structures involving Anglo shareholding.

3.3 The evolution of Iscor, Anglo and Rembrandt's over the 1970s and 1980s

3.3.1 Evolution of Iscor

Iskor embarked on a massive expansion programme between 1973 and 1977, introducing tensions with the state over how this expansion would be financed. It expanded its Vanderbijlpark works, erected a new integrated steel plant at Newcastle and simultaneously embarked on a massive expansion of its largest iron ore mining deposits located in Sishen in the Northern Cape. This source of high quality iron was to be unlocked both for Iscor's own steel production and to boost foreign exchange through the export of iron ore. National steel production, driven preponderantly by Iscor and Highveld expansions, more than doubled between 1967 and 1989 from under 4 million tonnes per annum (mtpa) to over 9mtpa (Figure 3.1).

Figure 3.1: South African and Iscor crude liquid steel production (millions of tonnes per annum), 1967–1989



Sources: Author's calculations based on International Iron and Steel Institute (various years), Iscor Annual Reports (various years), World Steel Association (various years).

The estimated costs of Iscor's expansion programme represented about 7.7 times its annual average sales revenue (of R323m) and 227 times its average profit (of R11m) over the three-year period 1971-1973. This excluded the cost of constructing over 800km of rail line to transport the iron ore from Sishen in the northern Cape to the western Cape port of Saldanha and associated port expansions. However, Iscor also took on the project execution and financing responsibility of these rail and port expansions. Thus fixed investment represented around 72% of Iscor's turnover between 1972 and 1974 and 45% between 1975 and 1979 (Iscor various years).

However, Iscor's ability to increase prices was regulated by the Price Control Act of 1964. For the state, as conveyed by JFW Haak, Minister of Economic Affairs "(i)nexpensive high quality steel [is] an indispensable requirement for the development of a country's factories" (Iscor 1969: 9). State regulation of steel

pricing was thus a source of significant and ongoing tension between Iscor and the state. In virtually every annual report between 1969 and 1985, when the price control system was finally abolished, Iscor bemoaned the adverse impact of the system on its ability to fund investment and remain financially viable (Iscor various years).

In order to make such large-scale investment viable the state was compelled to provide financial support in a range of ways. First, the Iron and Steel Industry Act was amended to remove any ceiling on the share capital Iscor could issue. Second, government made an open-ended commitment to guarantee whatever debentures Iscor issued, enabling Iscor to access both domestic and international debt markets, the latter largely in Europe. Third, Iscor was designated in terms of the Insurance and Pension Funds Act as an “institution” which formed part of the public “prescribed assets” system in place between 1956 and 1989 that required every pension fund to minimum investments in government debt and “prescribed assets” such as state owned enterprises.¹² Fourth, the state made periodic direct equity injections into Iscor.¹³ Fifth, government waived its rights to any dividend payments until shortly before Iscor’s privatisation in 1989. An additional source of capital were loans from suppliers of capital equipment, predominantly from Germany and Japan (Iscor various years).

¹² Over this period every pension fund was required to place a prescribed minimum of its total investments in both government bonds and prescribed assets. These minima ranged between 10% for government bonds and 40% for prescribed assets in 1956 and peaked at 22.5% and 55% respectively. “Prescribed assets” included “National Defense Bonds, Iscor, Sasol, various water services, economic development, and homeland development corporations” (Pollin et al. 2006: 102)

¹³ Iscor describes some of these injections as if the state were purchasing more shares, despite being its sole shareholder: “Over the past four years, the Government has contributed appreciable amounts in share capital to augment Iscor’s [loan] redemption needs ... to bring some relief to the Corporation with regard to its financing cost” (Iscor 1978: 5)

One way in which Iscor financially protected itself was through a “defensive” accounting measure. From 1952, it implemented a provision on its income statement for future replacement of old or obsolete machinery. This reinforced the onus on government to make good investment funding shortfalls. As discussed below, the removal of this provision was used to boost the appearance of Iscor’s profitability leading up to privatisation (Iscor various years).

Notwithstanding price controls, Iscor found a range of mechanisms to exert substantial influence over steel pricing and supply conditions within South Africa. Its concurrence was required for the importation of steel and during periods when domestic steel demand outstripped supply it acted as the main conduit for steel imports and was authorised to levy a surcharge on steel sales to cover the costs of importation. Similarly, Iscor was authorised to levy a surcharge on domestic steel sales to cover the costs of its steel exports (Iscor various years). This pattern of control over pricing was to be strengthened following the abolition of price regulation and after privatisation (Roberts and Zalk 2004).

Sustained losses at Iscor saw it capping its capacity at 8.5mtpa and the establishment of a “committee of enquiry” into Iscor’s financial affairs by the Minister of Economic Affairs. Indicative of Iscor’s increasing influence on policy, the resultant “Theron Committee” was comprised jointly of senior civil servants and members of Iscor management itself. Reporting to parliament in 1979 its primary recommendation was that Iscor be awarded “more realistic” double-digit price increases (Iscor 1979).

In 1979 the apartheid government privatised Sasol, which listed on the Johannesburg Stock Exchange (JSE). Privatisation formed part of a broader, yet uneven and stumbling, shift of the apartheid state over the 1980s to overcome mounting economic stagnation through the adoption of greater “free market” principles (Marais 2011). Iscor management began to advocate and prepare for privatisation and anticipate investor expectations a stock exchange listing would bring. In 1983, Iscor’s board pronounced itself in favour of privatisation arguing that the corporation had been run along commercial lines for many years (Iscor 1983). It committed itself to greater “capital discipline”, stating in 1984 that no new primary steelmaking or coal mining capacity would be developed for the next ten years, in order to stabilise its debt-to-equity ratio (Iscor 1984). Its longstanding opposition to price controls finally bore fruit with government’s abolition of the mechanism in 1985. Although the precise circumstances leading to the removal of price controls on steel the repeal of the Price Control Act (Government of South Africa 1964) was consistent with a shift, however halting, of policy orientation towards liberalisation, and sustained lobbying by Iscor for the removal of price controls. However, Iscor’s schizophrenic approach to “free market” conditions was reflected by it simultaneously criticising the state’s abolition of quantitative controls in favour of a customs tariff system (Iscor 1985). In 1986 the state took over the bulk of the outstanding debt on the Sishen-Saldanha railway line, which the South African Transport Services (SATS) (successor to South African Railway and Harbours) had taken over from Iscor, enabling Iscor to secure lower rail tariffs from SATS for its exports of iron ore.

Iscor’s privatisation involved exaggeration of its profitability. It artificially boosted its apparent profitability by abandoning its longstanding provision for asset

replacement.¹⁴ Whereas previously Iscor had been a loss-making enterprise, in terms of its revised financial statements it appeared to have been profitable since 1985 (Iscor 1989). In 1988 Iscor paid out its first dividend (to the state as its shareholder) in over a decade. Although a token R65m, this signalled Iscor's intent to pay out dividends to future private investors. Furthermore, its announcement in 1988 of having made a major technological breakthrough in relation to the successful introduction of a world first industrial scale Corex iron and steel making technology at its Pretoria works proved to have grossly overstated progress, with the project abandoned within a few years (Iscor various years).

Iscor was privatised in 1989 and listed on the JSE, with management securing generous benefits for themselves. In terms of a Management Share Scheme 16 million shares were issued to management at a cost of R2 per share (Iscor 1989). With Iscor's market price running at R198 per share in 1990 this meant management were able to purchase shares for around 1% of the listed share price. Over subsequent years shares and share options were offered to management on similarly concessional terms. In 1991, a further 1.55 million shares were sold to management and 675,000 options offered at R1.69 relative to the year-end share price of R212. In 1992, a further 950,000 shares and options were bought by management on 2,130,000 shares at a price of R2.06 per share relative to the year-end share price of R137. In 1993, 6,969,100 shares were repurchased under the management share scheme and 900,000 options granted at R0.79 per share (Iscor various years).

¹⁴ Although there were undoubtedly sound reasons for updating what had become an outdated accounting practice, the timing of the change and the fact that Iscor had hitherto vigorously defended the practice strongly suggests the primary motivation was to exaggerate the appearance of profitability.

Iskor was privatised as an effective monopoly on flat steel products and the single largest producer of long products in the absence of a regulatory regime to discipline its pricing power or much state direction over its industrial and technological trajectory and linkages with downstream development of steel-consuming engineering sectors (Roberts and Zalk 2004).

3.3.2 Evolution of the Anglo American Industrial Corporation's steel and engineering interests

Anglo American's emergence from the 1950's with large cash surpluses derived from its Orange Free State gold expansions set the stage for its diversification into the financial and industrial sectors (Innes 1984). Anglo established the Anglo American Industrial Corporation (AMIC) in 1964 to undertake large capital-intensive industrial investments with long lead times and to consolidate a wide range of industrial holdings already held by Anglo. AMIC inherited subsidiaries straddling a wide range of sectors: Building; Iron, Steel, and Engineering; Industrial Diamonds; Metals and Minerals; Chemical Finance; Paper and Packaging; Breweries; Food and Produce; and Textiles (Anglo American Industrial Corporation 1964). Over the 1960s Anglo's industrial investments grew rapidly both in absolute terms and relative to its mining interests (Anglo American various years; Anglo American Industrial Corporation various years).

The Highveld Steel and Vanadium (Highveld) integrated iron, steel and vanadium project was Anglo's largest industrial investment of the 1960s (Cross 1994). In anticipation of the project Anglo acquired Scaw Metals, both to acquire technological and managerial experience in steel and to secure a channel for output of Highveld's

specialty metals in addition to acquisition of stakes in historically “British” steel traders Robor and Stewarts & Lloyds as well as Union Carriage and Wagon and Hall Longmore (Innes 1984; Cross 1994). Other Anglo stakes in steel and engineering included Boart and Hard Metal Products, Union Steel Corporation and African Metals Corporation. The Highveld plant was erected in 1965 and by 1970 was the fourth largest industrial firm listed on the JSE (Innes 1984).

Anglo’s increasing cooperation with Afrikaner private capital was evident when AMIC took a 12.5% stake in 1965 in Mainstraat Beleggings, a subsidiary of Sanlam-owned Federale Mynbou (to whom it had sold General Mining) in order to jointly “invest principally in steel, engineering and heavy industry” (Anglo American Industrial Corporation 1965). Mainstraat Beleggings, correspondingly, took a 10% stake in Highveld and stakes in other steel and engineering companies including Stewarts & Lloyds, Union Carriage and Wagon and Hall Longmore (Anglo American Industrial Corporation 1965).

Following the establishment of Highveld, Anglo and AMIC expanded into various other ferrous metal sectors. In 1964 it took a stake in Middleburg Steel and Alloys, parent of Southern Cross Steel created in 1964, which would later form the basis for the large-scale Columbus stainless steel project in 1991. In 1975 Samancor, a ferrochrome and ferromanganese producer, was formed through a merger between SA Manganese Limited and African Metals (a joint venture between Iscor and Anglo) with Gencor acquiring a majority stake by 1983. Highveld acquired Rand Carbide Limited in 1978, a producer of ferrosilicon and carbon-rich products. In 1985 Highveld fully acquired manganese alloy producer Transalloys. Highveld also

acquired Rheem in 1985, a manufacturer of drums, pails and crown closures. (South African Iron and Steel Institute n.d.).

The 1980s saw AMIC increasingly absorbing a range of capital-intensive investments that had been gestated across a broader shareholder base. Over this period AMIC acquired, partially or fully, the stakes held by other investors in Highveld, Mondi (paper and pulp), African Explosives and Chemical Industries (AECI) (chemicals) and African Products (maize products). A major development was the merger of the De Beers industrial subsidiary, Debincor, with AMIC, which brought both AECI and Boart under full AMIC ownership. Notwithstanding the increased contribution of a range of other investments the combined contribution of Highveld, Boart and Scaw's to AMIC earnings averaged 45.2% between 1980 and 1989. AMIC also engaged extensively in the acquisition spree that accompanied deteriorating economic conditions over the 1980s and spurred by disinvesting US foreign investors of their South African subsidiaries. In 1980 Scaw took a 36% stake in mining rope and chain producer Haggie which in turn formed a joint venture with Iscor: Consolidated Wire Industries (CWI). In 1984 AMIC subsidiary Samcor acquired the South African subsidiaries of divesting US car producers Amcar and Ford (Anglo American various years; Anglo American Industrial Corporation various years).

3.3.3 Evolution of Rembrandt

Rembrandt developed out of a tobacco company *Voorbrand* ("fire-path") established in the 1940s by founder Anton Rupert. Rembrandt was one of the first beneficiaries of small-scale funding from the Federale Volksbeleggings (FVB), one of the finance

houses established at the *Ekonomiese Volkskongress* of 1934. Rupert, a young participant at the *Volkskongress*, rapidly moved into the liquor trading industry and from there into tobacco products (O'Meara 1983). In 1948 Rembrandt began manufacturing cigarettes and was incorporated and listed on the Johannesburg Stock Exchange in 1956. Rembrandt shifted from its initial reliance on the "extensive use of Afrikaner nationalism and its cultural symbols" (Feinstein 2005: 179) to rapid international expansion of its tobacco business over the 1950s and 1960s through a series of joint ventures with domestic partners in a wide range of countries (Rembrandt various years; Dommisse and Esterhuyse 2009).

These joint ventures and subsequent patterns of co-investments are conveyed in official corporate mythology as part of a philosophy of respectful collaboration known as "industrial partnership" (Rembrandt various years; Dommisse and Esterhuyse 2009). Virtually no detail is provided in Rembrandt's annual reports of how this international growth took place. However, a rare interview given by Rupert to *Fortune* magazine in 1981 highlights the shrewd purposes these low profile joint ventures had served in building Rembrandt's international tobacco empire:

The smokescreen Rupert has blown around his company is no mere quirk of a proprietor's personality. It is an essential ingredient of the business itself. The low profile discourages boycotts and so allows Rembrandt, alone among corporations, to be that near contradiction in terms – an international consumer-goods company based in South Africa ... Some parts of Rupert's empire have been concealed, notably operations in places like Malaysia, Singapore and Jamaica, where South

Africa's racial policies are anathema. Also concealed is the group's export trade from London to black African countries like Ghana, Zambia, the Ivory Coast, Ethiopia, and Nigeria that do not recognise South Africa and in many cases boycott its products and companies.

(Kinkead 1981: 194)

"Industrial partnership" in the context of secretive and opaque reporting thus served multiple objectives: building up offshore capital in the context of exchange controls; expansion into markets not hospitable to a South African company in the context of the growing momentum of an international anti-apartheid movement; cost-effective and rapid expansion into new markets; and preventing competitors from gaining greater insight into the intentions of the group (Kinkead 1981). Leading up to and over South Africa's democratic transition, Rembrandt's past practice of "industrial partnership" was invoked by the company as part of its mythology of historical sensitivity to domestic interests across a range of countries in which it operated and its willingness to reach an accommodation with a post-apartheid administration and aspirant black capitalist interests (Rembrandt various years).

In 1972 Rembrandt's international tobacco interests were consolidated into Rothmans International, a firm listed on the London Stock Exchange. Rupert "transformed Rothmans from a small mail-order concern into the world's fourth-largest cigarette company" with an \$8.5bn annual turnover (Kinkead 1981: 194). Tobacco products have been by far the largest and most profitable part of Rembrandt's (and its successor Remgro's) operations, until they were unbundled

directly to shareholders in 2009, and have continued to be so for the Rupert family itself until recently. The surplus that had been accumulated through tobacco operations in the form of cash and liquid assets was used to expand Rembrandt's non-tobacco investments (Rembrandt various years; Remgro n.d.).¹⁵

Much of Rembrandt's subsequent growth in South Africa took the form of acquisition of stakes in existing entities, of which a sizeable proportion were in large Afrikaner groups that had emerged out of the *Ekonomiese Volkskongres* movement. In mining Rembrandt held 30% of Sanlam mining subsidiary Federale Mynbou by 1981, 53% of diamond miner Trans Hex by 1984 and 10% of Gold Fields by 1987; in finance and insurance 30% of Volkskas by 1985, a 50% founding stake in Sagecor in 1985 and a 10% interest in Standard Bank Investment Corporation in 1987; and in industry 50% of Sanlam subsidiary Bonuskor by 1987. Existing liquor interests were expanded via Distell through an effective market-sharing agreement with Anglo subsidiary South African Breweries. A 34% stake in French petroleum group Total's South African operations was accrued by 1987. Rembrandt also pioneered the establishment of private hospitals in South Africa, establishing the Medi-Clinic group in 1985. It also expanded its presence in a number of manufacturing sectors through the acquisition of stakes in existing companies and formation of joint ventures with multinational companies (Rembrandt various years).

Whereas the post-war presence of Afrikaner interests in the steel and engineering sectors had been predominantly represented by Iscor, in 1980 Rembrandt acquired a 25% interest in Iscor's industrial holding company Metkor and 10% of Stewart &

¹⁵ The 1981 sale of half of Rembrandt's stake in Rothmans to Phillip Morris for \$350 million left Rembrandt cash flush and in a position to make substantial acquisitions in other (Rembrandt 1982).

Lloyds. Metkor included a number of engineering subsidiaries, in addition to holding Iscor's stake in the IPSA joint venture with Anglo. By far the largest company within the Metkor group was engineering giant Dorbyl. Other major subsidiaries included Wispeco, an aluminium extruder, and Air Products, an industrial and specialty gas supplier. By 1984 Rembrandt held 50% of Metkor, effectively stepping into Iscor's shoes as shareholder (Mekor various years; Rembrandt various years). From Rembrandt's perspective, its engineering holdings were never a significant part of its overall income and profit. Between 1982 and 1987 engineering accounted for between 2.6 and 4.3% of capital employed and only 2.9 and 3.0% of its sources of net income (Rembrandt various years). Conversely, however, Rembrandt's interests in engineering represented a large proportion of South Africa's engineering capacity, particularly its control of the largest engineering group in South Africa's history: Dorbyl.

3.4 The evolution of Iscor, Anglo and Rembrandt's engineering subsidiaries over the 1970s and 1980s

3.4.1 Origins and evolution of Scaw

Scaw's origins are reflective of the mining roots of early twentieth-century South African industrialisation. Steel and Ceilings Aluminium Works (Scaw) was established in the 1920s, producing steel castings and other parts for the mines, and expanding into cast steel grinding balls in the 1930s. In 1937 it listed on the JSE (Innes 1984). Also established in the 1920s was Haggie, Son & Love, subsequently to be absorbed into Scaw over the 1980s and 1990s, which opened the first steel-wire rope making factory in the southern hemisphere to supply mining demand. Scaw expanded in the 1940s and 1950s largely to supply a variety of steel products

to the gold mining industry. Technical agreements with United States and English companies in the 1950s saw it move into more sophisticated and diversified engineering activities oriented towards the rapidly growing railways including cast bogies and freight car wheels, as well as earth-moving and heat-resistant castings (Innes 1984; Hannemann 2014; Scaw 2014).

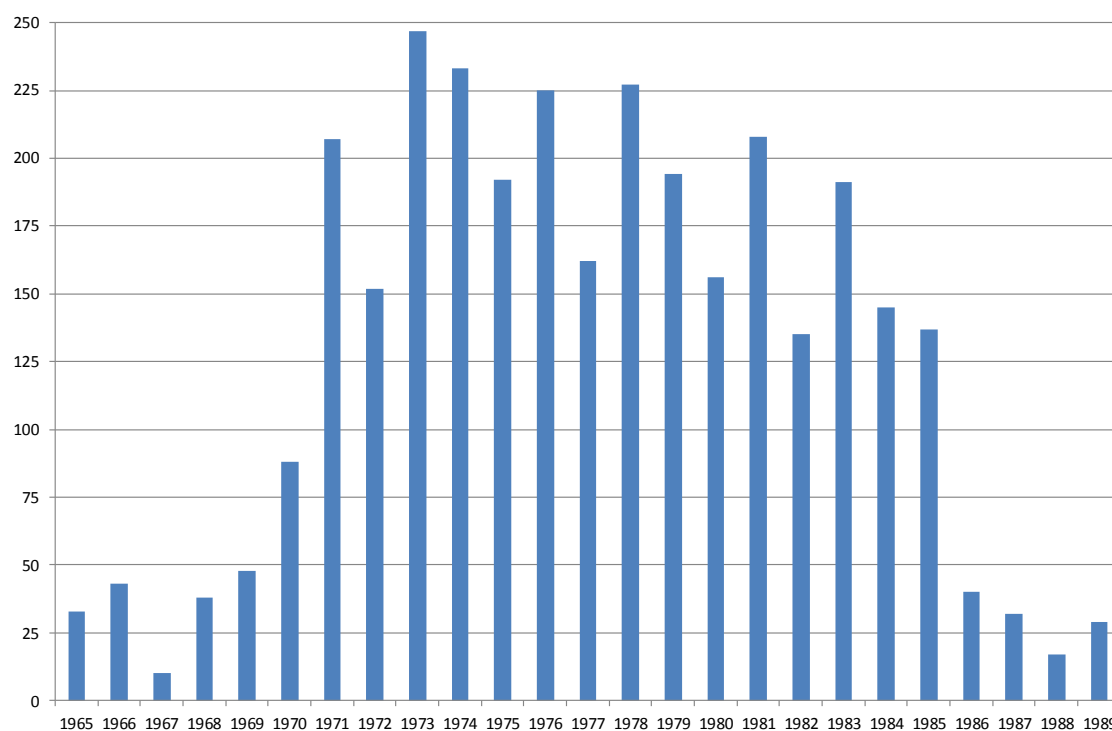
Scaw expanded further after its acquisition by AMIC in 1964, straddling both primary steel production and “downstream” engineering activities predominantly for the mining and rail sectors. By the 1980s Scaw was producing 12.5% of the global share of grinding balls. It became a significant exporter, including undercarriages for US railway freight cars (Innes 1984). In 1985 Scaw commissioned a high chromium grinding media (HCGM) line, producing more resilient and higher value-added grinding balls based on technology licenced from Belgian specialist foundry group Magotteaux. Scaw added a second HCGM line in 1994 and a third in 2003 all dependent on Magotteaux technology (Hannemann 2014; Scaw 2014).

In the face of weakening domestic demand over the 1980s responded acquisitions and joint ventures with existing firms rather than significantly expanding export markets, mirroring the behaviour of other conglomerate engineering subsidiaries. AMIC’s acquisition of a 36% stake in Haggie in 1980 was reflective of this pattern. Haggie, anticipating the peak and decline of the then booming gold mining industry, its major client, began to diversify through an aggressive programme of acquisition of engineering firms outside of its historical focus on wire and rope, a strategy which ultimately proved commercially unsuccessful (Gibson 1996; Hannemann 2014). Scaw’s large stake (and ultimate outright purchase of Haggie in 1999) was chiefly to

secure an outlet for the output of its steel rolling mills, including through Haggie's CWI joint venture with Iscor.

Over the late 1980s and early 1990s Scaw's rail-related foundry division producing wheels, bogies and frames came under severe pressure as public rail investment by South African Rail and Harbours (SARH) and its successors: South African Transport Services (SATS) and Transnet dried up (Figure 3.2). Limited success in developing export markets for cast products thus rendered Scaw increasingly dependent on demand from the mining sector.

Figure 3.2: Number of locomotives purchased by national rail services, 1965 - 1989



Source: Transnet (n.d.) compiled from annual reports of South African Rail and Harbours (SARH), South African Transport Services (SATS) and Transnet.

3.4.2 Origins and evolution of Boart

Boart and Hard Metals (Boart) was established by De Beer's in 1936 in response to the need to create a market for De Beer's large accumulated stockpile of low grade diamonds known as boart. Boart drills and tips were used to drill blast holes for the placement of explosives in gold mining in particular and were used for this purpose until around the 1950s when they were replaced with an even harder material: tungsten carbide. Thus the establishment of Boart served the dual purpose of creating such a market for De Beer's boart stockpiles and raising the productivity of Anglo American's mining activities, particularly gold (Innes 1984; Howard 1996; Brunner 2014).

Boart focused on hard rock diamond drilling and associated cutting and abrasive tools, with periodic shifts into related industries, albeit with varying degrees of success. It benefited initially from control by parent company De Beers over the global supply of natural industrial diamonds. However, it adapted to the introduction and rapid expansion of synthetic diamond production by companies such as General Electric in the 1950s with De Beers creating its own synthetic diamond production in Shannon, Ireland in 1963. From shortly after the Second World War, Boart developed tungsten carbide mining tools and also shifted into contract drilling services, soft rock and coal cutting machinery and later materials handling machinery (Rustomjee 1993; Howard 1996).

Boart's emergence out of De Beers and Anglo has been virtually unique: an internationally competitive manufacturing subsidiary outside of mining (albeit with strong links to it) or heavy industries. In 1967 an international holding company

was established to consolidate Boart's 80 subsidiary and associated companies worldwide. By 1969 Boart had 100 subsidiaries and associates operating across 28 countries. By the late 1970s it was earning a significant portion of its annual income from foreign sales and operations (Anglo American Industrial Corporation various years).

However, Boart's establishment and growth from the 1930s to the 1950s also appears to have marked its apogee in terms of its research and development efforts. In conjunction with the University of the Witwatersrand's Minerals Research Institute, Boart undertook its own proprietary research and development as early as the 1930s. It also benefited from research being conducted in the late 1940s and 1950s by De Beers (Rustomjee 1993). A major breakthrough in the use of tungsten carbide-impregnated drill steel tips led to Boart's transition to Boart and Hard Metals in 1955. However, Boart appears to have conducted little direct R&D after the 1950s, opting for technology acquisition achieved chiefly through the purchase of companies that had already developed relevant technologies. Thus a key strategy of Boart was to enter into technological association agreements with small international contract drilling competitors and to subsequently acquire them (Rustomjee 1993). From the early 1970s, Boart began a string of acquisitions in continental Europe acquiring chiefly German and Scandinavian firms. In the early 1970s, Boart established an association with Longyear, a US company focused on mineral exploration drill rigs, exploration drilling tools and contracting for sample extraction. In 1974 Boart purchased all outstanding shares in Longyear (Anglo American Industrial Corporation various years; Howard 1996).

Over the 1980s Boart was consistently profitable, a significant albeit declining contributor to AMIC's earnings and virtually unique under Anglo ownership in having achieved significant international competitiveness outside of mining and heavy industry as reflected in both in its exports from South Africa and earning from its foreign subsidiaries. However, these achievements masked major weaknesses associated with AMIC's ineffective management of its non-commodity subsidiaries and associated technological complacency (Anglo American Industrial Corporation various years; Howard 1996; Brunner 2014; Wood 2014).

Globally a process of technological change was underway in which labour-intensive hand-held pneumatic drills were increasingly being replaced by more complex hydraulic drilling rigs. This trend was evident from at least the mid-1970s, as noted by a contributor to the *Journal of the South African Institute of Mining and Metallurgy*:

The greatly increased output of rockdrills has placed new demands on booms, carriers, and drill steels and bits. Limited scope for further improvement in pneumatic rockdrills has led to the development of hydraulic rockdrills, which compare favourably with their pneumatic counterparts: they are more efficient, more flexible in coping with variations in the working conditions, more economical in the consumption of drill steel, and less productive of noise and mist.

(Marshall 1975: 181).

Despite substantial earnings from exports and international operations, the South African market represented a large proportion of Boart's demand until well into the

early 1990s but proved vulnerable to the rapid decline in South Africa's gold mining industry. This was due to the large, but declining, demand for Boart's single biggest product line: hand-held pneumatic percussion drills used predominantly in South Africa gold mines which due to their thin veins deposits required labour-intensive hand-held drilling to place explosive charges. The long-term decline of South Africa's gold mining industry led to an accompanying decline in demand for pneumatic drills as well as for associated deep exploration drilling in the South African market (Anglo American Industrial Corporation various years; Brunner 2014).

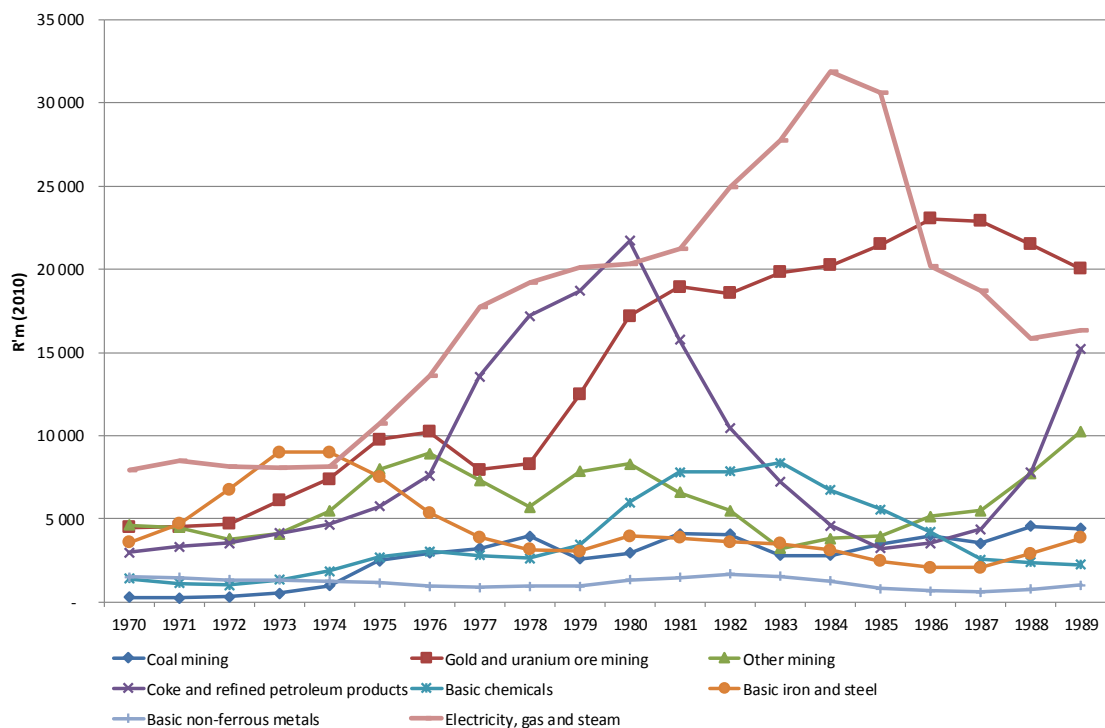
3.4.3 Origins and evolution of Dorbyl

Dorman Long (Africa) was established in 1903 as a subsidiary of the English Dorman, Long & Co. and developed into South Africa's largest structural engineering company. It undertook the structural engineering for the development of Iscor's Vanderbijlpark plant in 1945 and subsequently worked on a range of mining and mineral-processing expansions including African Metals Corporation, Sasol and on the Orange Free State goldfields (De Beer 2003). During the Second World War it produced military vehicles, bridges and aircraft hangars using Iscor armoured plate (Clark 1984). Post-war shortages of steel in Europe presented the opportunity for Iscor Chairman Van der Bijl to renegotiate pre-war terms with British engineering subsidiaries that had been tactically necessary but deeply unfavourable to Iscor. Dorman Long was amongst the largest of these British engineering interests that Iscor renegotiated terms with (Clark 1984). From the 1950s to the 1970s Dorman Long was heavily involved in the supply of South Africa's railway infrastructure, producing heavy steel structures and rolling stock, particularly freight wagons for the domestic market (De Beer 2003).

In 1945 Iscor established the Vanderbijl Engineering Corporation (Vecor) with Anglo American as co-investor (Clark 1984). Vecor was established to do maintenance on Iscor's plant and to supply equipment to the mines with a heavy engineering focus in heavy foundry, fabrication, welding and machining operations. Vecor relied on foreign technology licences and know-how agreements, obtained chiefly from the US for steel-related activities and Europe for industries such as mining, cement and sugar (Clark 1994, Mostert 2014).

Dorbyl was formed in 1973 through the merger of Dorman Long and Vecor. Dorbyl served two major overlapping functions under joint Iscor and Anglo ownership. First, Dorbyl was the preeminent provider of heavy engineering capabilities for the installation and maintenance of plant for Iscor, Anglo and more broadly across mining, heavy process industries and infrastructural expansions. Thus the primary driver of Dorbyl's growth was fixed investment in large capital projects, the level of which peaked by the mid-1980s and subsequently went into decline (Figure 3.3). Between 1973 and 2003 major projects undertaken by Dorbyl included: Iscor, Highveld and Columbus steel expansions; work on the Sasol II and III petro-chemical plants; the establishment of Alusaf and subsequent aluminium smelting expansions; virtually every electrical power station built over the period; a wide range of equipment into gold, coal and platinum mining; work on cement; paper and pulp and other process engineering plants (De Beer 2003). Other Dorbyl divisions served the railway, marine, bus bodies and automotive markets. All but the last were heavily reliant on public expenditure in areas such as rail rolling stock, shipbuilding and buses for public transport. Thus Dorbyl served to "pull through" steel demand for supply into these various sectors (Dorbyl various years; Mostert 2014).

Figure 3.3: Gross domestic fixed investment in mining, heavy industry and electricity (Rm 2010), 1970-1989



Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

Dorbyl was also one of two major assemblers of rail rolling stock. It focused on provision of rolling stock for the freight requirements of SARH and its successor SATS, assembling locomotives and freight wagons. Union Carriage and Wagon (UWC) (majority owned by General Mining's Mainstraat Beleggings with minority Anglo shareholding) focused on passenger rail. Dorbyl also had a specialist foundry to produce wheels in parallel with Scaw Metals rail wheel capacity. Ringrollers, a subsidiary of Dorbyl, made tyres for locomotives. All locomotives, wagons and carriages produced from approximately 1960 to 1990 were locally assembled based on licencing agreements of international technology partners (Dorbyl various years; Mostert 2014).

The decline in fixed investment in large resource-processing mega projects over the 1980s thus represented a major challenge for Dorbyl. In 1985, Dorbyl began a

programme of acquisitions aimed at insulating itself from the effects of declining demand and to attempt to diversify from heavy to light engineering (Rustomjee 1993). The first of these was the acquisition of Stewarts & Lloyds in which IPSA held a 51% stake. Further acquisitions included Barlows Engineering Holdings (1985), Barlows Railway and Engineering Products (1985), Wolhuter Steel (1986), Afgate (1986) and Hulett Engineering (1986). In 1988, an ultimately unsuccessful, joint venture was established between Dorbyl (40%) and Iscor (60%) in a large new seamless tube and pipe mill project: TOSA (Dorbyl various years). The abrupt decline in fixed capital investment expenditure over the 1980s, in the absence of any coherent national strategy for reorienting the heavy engineering capabilities that had been built, saw considerable rationalisation and refocusing of the sector in the face of contracting domestic demand. Capabilities and skills were lost with the brunt of this restructuring felt by labour. Dorbyl's employment fell from 25,000 in 1985 to 23,200 in 1989 and in turn 15,500 by 1992 (Dorbyl various years; Rustomjee 1993).

3.5 Apartheid industrial and trade policy: the failure to develop engineering

As elaborated in Chapter 4 apartheid industrialisation is frequently represented in scholarship as a case of import substituting industrialisation that ultimately failed. This is notwithstanding little evidence of any systematic influence of structuralist economic thought on apartheid policy, nor of instruments such as tariffs being mobilised by the apartheid state in any systematic or coherent manner, in conjunction with other instruments, to develop manufacturing sectors outside of heavy industry (Fine and Rustomjee 1996; Freund forthcoming). This is notwithstanding the recognition by both the state and the conglomerate groups of

the need for industrial diversification beyond a reliance on mining and heavy industry and an associated balance of payments constraints to growth, particularly as growth and conglomerate accumulation faltered over the 1980s.

Various commissions of enquiry and official reports dating back to the 1950s reflected both a concern with the dependence of the economy on mineral and semi-processed commodity exports and the need for the diversification of manufacturing production and exports. These include the Viljoen Commission (1958), Reynders Commission (1972), Van Huysteen Committee (1978), Kleu Report (1982) and Board of Trade and Industry (1988). These commissions recommended a mix of measures, typically with a narrow emphasis on changes to the tariff and trade regime (McCarthy 1988; Macroeconomic Research Group 1993; Fine and Rustonjee 1996).

There was a similar recognition by the conglomerates of the need to develop exports outside of mining and semi-processed commodities (Anglo American Industrial Corporation, various years; Dorbyl various years). However, even as manufacturing in general and engineering in particular underwent substantial decline from its peaks of the early 1980's the conglomerates relied on periodic commodity price booms, the extension of uncritical tariff protection by the state to defend rather than develop engineering, and preservation of profitability in declining domestic markets through acquisition of competitors in the context of an extremely permissive competition policy (Macroeconomic Research Group 1993; Rustonjee 1993; Fine and Rustonjee 1996; Roberts 2004).

For Rustomjee (1993) the most favourable point at which a strategy to diversify engineering from this GDFI focus would have been in the early 1980s when capacity utilisation in the sector was high and unit costs low. Both Kaplan (1991) and Meth (1990) highlight inadequate economies of scale in the capital equipment sector in the late 1980s as a significant problem. However, under conglomerate consolidation profitability was sustained at low capacity utilisation levels and declining levels of value-added and employment through increased vertical integration in two respects. Ultimately there was:

... never a clear objective of using the nearly five decades of sustained, though lumpy, investments in infrastructure, mineral, energy and chemical mega-projects to build up one or other segment of engineering.

(Rustomjee 1993: 3).

A last gasp attempt to develop strategies for manufacturing diversification came from the Board of Trade and Industries (BTI) in the late 1980s which sought to link lower tariff protection to competitiveness improvements, called without apparent sense of irony “Structural Adjustment Programmes” (SAPs) (Macroeconomic Research Group 1993). However, these SAPs were never implemented as the influence of the IDC increasingly overshadowed and ultimately eclipsed that of the BTI as the IDC drew closer to the private conglomerate groups. The IDC increasingly championed trade liberalisation, even as it downplayed its own historic role in building up heavy industries and was heavily engaged in supporting a range of capital-intensive mega-project expansion over the early 1990s. Thus:

[w]ith the demise of the [Board of Trade and Industry], the IDC is implementing the only significant industrial policy remaining, namely the promotion of an industrial trajectory around large-scale mega-projects ... The only difference is that the process is now driven by private-sector interests rather than the parastatals previously supported by the IDC.

(Macroeconomic Research Group 1993: 215)

3.6 Conclusions

English dominated mining capital profoundly shaped a racially exclusive process of industrialisation since the late 19th century, amid rising Afrikaner political and economic ambitions. Despite the prominent role ascribed to tariffs, the emergence from the 1920s of SOEs, such as steel maker Iscor, proved more decisive in shaping post-war industrialisation with increasingly aligned with private capital.

The steel and engineering sectors have been illustrative of post-war processes of conflict, compromise and the ultimate intertwining of historically English and Afrikaner capital on the one hand, and private and public capitals on the other. Anglo's entry into the steel sector, after initial conflict with the state, catalysed a process of increasing accommodation with Afrikaner capital and effective joint dominance with Iscor of the primary steel industry and much of engineering. Rembrandt's acquisition of Iscor's engineering interests over the early 1980s consolidated a nexus of control over steel and engineering by these three business groups.

While substantial capabilities were built up in engineering subsidiaries, particularly in heavy engineering and linked to mining, the subordinate role they occupied under conglomerate control entrenched a range of weaknesses, particularly the difficulty in shifting to light engineering and developing exports. The inability of state and the conglomerates to mount strategies to develop engineering were impeded by periodic commodity price booms and the ease of corporate growth through acquisition, even as domestic demand weakened. In steel the strategic orientation of a privatised and unregulated Iscor was becoming increasingly intertwined with private interests.

However, as elaborated in the next chapter, rather than leading to a coherent strategy for the reorientation and development of steel and engineering, a confluence of scholarship, ideology and interests placed the corporate and industrial restructuring of these sectors in the hands of the large business groups that had driven the skewed development of these sectors under apartheid in conjunction with increasingly influential institutional shareholders.

Chapter Four

Post-apartheid economic policy: the role of scholarship, ideology and interests

South Africa's National Development Plan (National Planning Commission 2012) links disappointing post-apartheid manufacturing performance to continuity with the country's apartheid past in the following way:

Uncompetitive goods and services markets are a result of the pattern of economic growth under apartheid and sanctions-induced isolation. This has led to relatively high profit margins but little new investment or innovation. Profits are shared and then consumed by both existing owners of capital and existing workers. Uncompetitive markets for goods and services and low levels of investment mean that new firms are not entering the market and employment is low. Uncompetitive labour markets keep new entrants out and skew the economy towards high skills and high productivity sectors.

(National Planning Commission 2012: 110–111).

This diagnosis reflects a hegemonic consensus that solidified over the early 1990s that apartheid industrialisation failed primarily as consequence of a range of market distortions compounded by weak skills formation. Orthodox scholarship continues to place the alleged prevalence of widespread market distortions and (undeniably) defective post-apartheid skills institutions at the centre of weak post-apartheid industrial performance, even as it has adapted to a limited extent through the admission of circumscribed market imperfections. More recently there has been an

attempt to set these structural economic features within a loose political economy framework in which “insiders” comprising “big business”, “big labour” and “big government” have reached a corporatist bargain that excludes “outsiders” predominantly small businesses and the unemployed.

Section 4.1 sets out how this dominant consensus arose, notwithstanding serious conceptual and empirical deficiencies, amid competing interpretations of the failure of apartheid industrialisation and associated implications for the direction of post-apartheid policy. Section 4.2 details how an orthodox vision of industrial restructuring came to dominate post-apartheid policy orientation through the overlapping influences of scholarship, ideology and the interests of the large conglomerate groups. In order to secure conditions as amenable as possible to as unfettered restructuring, the conglomerate groups initiated the mechanism of Black Economic Empowerment asset transfers as a tactical legitimisation mechanism which would subsequently become embedded in policy. Section 4.3 traces the co-evolution of policy and scholarship over the post-apartheid period, reflecting how orthodox scholarship has adapted in the face of disappointing economic performance notwithstanding the widespread post-apartheid attack on market distortions and developments within orthodox economics itself. Section 4.4 concludes that mainstream scholarship, notwithstanding some adaptation over the post-apartheid period has advanced a misleading understanding of both apartheid and post-apartheid industrialisation serving *ex ante* to inform and *ex post* to validate orthodox elements in economic policy.

4.1 Contested interpretations of the failure of apartheid industrialisation

After growing rapidly since the Second World War, relative both to prior and subsequent performance, the apartheid economy entered a sustained period of decline from the mid-1970s linked to the long term decline of the gold mining industry and mounting weakness of the manufacturing sector (Gelb 1991; Joffe et al. 1995; Fine and Rustomjee 1996; Iliffe 1999; Feinstein 2005).² Industrial growth and employment turned negative over the 1980s and early 1990s. Between 1981 and 1994 real GDP per capita declined by 1.3%, GDP growth slowed to an annual average of 0.8% with negative output growth in both the manufacturing (-0.1%) and gold mining (-0.9%) sectors. Employment growth was negative in agriculture (-0.8%), mining (-1.9%) and manufacturing (-0.4%) with the narrowly defined unemployment rate rising to 12.7% by 1995 (Feinstein 2005: 201). Gross savings and investment rates as a share of GDP declined precipitously from 28.1% and 29.1% respectively in 1981 to 17.7% and 16.1% in 1994. Real annual average fixed investment growth over the period was 2.3%, led by a decline in public investment.

Particular structural weaknesses were reflected in the low rate of growth of manufactured exports and the composition of both exports and imports. South Africa's long-standing reliance on mineral-based commodity exports intensified over the 1980s. Large-scale capital-intensive heavy industry investment over the 1970s and 1980s, predominantly in mineral processing industries, increased the reliance of the economy on mining-linked exports. The share of combined mineral

² Moll (1990, 1991a) suggested that there had been nothing exceptional in international comparative terms about South Africa's relatively high growth period between the end of the Second World War and the mid-1970s. Similarly the economy's subsequent slowdown simply reflected trends in the global economy overlaid with the impact of sanctions in the 1980s. Sender (2015) argues that this view is difficult to reconcile with long term cross country growth statistics.

and semi-processed mineral commodity exports rose from 69% in 1970 to 78% in 1980 and 88% by 1988. The contribution of semi-processed raw materials to total exports rose from 32% in 1970 to 46% (Department of Finance Budget Review, 1990 cited in Macroeconomic Research Group 1993: 241). The relative importance of diversifying and raising manufacturing exports increased as the gold industry, South Africa's traditional source of foreign exchange earnings, underwent a process of long-term decline. However, the capital-intensive pattern of manufacturing investment combined with the underdevelopment of intermediate and capital goods sectors meant that expansion of investment, predominantly in mineral-processing, sucked in large volumes of imports. Thus each episode of mounting growth tended to be cut short by a rapidly rising balance of payments constraint.

Accumulation by the conglomerate groups was sustained over the 1980s through corporate growth that favoured acquisition over new fixed investment. This process was fuelled by a confluence of factors including barriers to the export of capital in the form of exchange controls, the purchase of divesting foreign subsidiaries in the mid-1980s as sanctions and disinvestment campaigns gained traction, and the weakness of the competition institutions. Levels of corporate concentration had been rising since the 1970s with English mining groups and Afrikaner financial groups diversifying their holdings into a range of other sectors including various manufacturing industries. Six main diversified conglomerates, comprising a progressively "inter-penetrated" mix of historically English mining and Afrikaner financial capital, increasingly dominated private economic activity and the Johannesburg Stock Exchange (JSE) (Joffe et al. 2005; Fine and Rustomjee 1996; Chabane et al. 2006). By 1990 six corporate groupings commanded control of 84% of the Johannesburg Stock Exchange: Anglo American, Rembrandt, Sanlam, SA

Mutual, Liberty Life/Standard Bank and Anglovaal with Anglo alone accounting for 44.2% (Table 4.1) (McGregor's Who Owns Whom, various years; Chabane et al 2006).

Table 4.1: Summary of Johannesburg Stock Exchange (JSE) market capitalisation (%), 1983–1999

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
ANGLO AMERICAN CORP	52.5	54.1	53.6	54.1	60.1	49.5	45.3	44.2	42.4	33.7	38.2	43.3	37.1	27.5	22.6	17.4	22.3
SANLAM	9.4	10.7	12.2	11.3	10.7	10.8	9.5	13.2	13.2	15.6	12	10.5	12.4	11	10.6	9.9	12.5
S A MUTUAL	0.6	2.7	10.6	10.9	8	9.8	9.8	10.2	10.4	14.2	10.7	9.7	11.2	10.2	11.4	8.8	10.6
REMBRANDT (inc Riche and G/Fields)	2.1	2.8	3.8	4.4	4.3	7.6	16.1	13.6	15.2	14.6	15.5	13	7.8	10.6	9.9	9	10.4
DIRECTORS	9.1	8.1	8.1	8.1	7	6.5	7	6.7	5.4	5.4	5.6	5.8	8.8	7.4	7.3	8.9	7.3
LIBERTY LIFE/STANDARD BANK	1.1	2.1	2	2.3	2	2.6	3.4	2.6	3.7	4.7	6.2	7.2	7.3	11.1	11.9	9.5	7.1
BLACK GROUPS * see note below														6.3	9.3	9.6	6.8
FOREIGN	5.4	5.7	5.9	6.1	4.1	5.1	3.6	2.1	1.9	2.2	2.4	2.2	4.1	4.1	4	3.9	4
INSTITUTIONS/UNALLOCATED	18.1	12.1	1.7	0.7	1.4	5.9	3.1	4.9	4.9	6.7	6	0.9	1.7	0.8	0.7	4.2	3.6
RMB/NORWICH												0.5	1	1.7	1.8	4.8	3.6
SASOL												1.7	1.9	2.1	2.8	2.2	2.6
INVESTEC/FEDSURE												0.4	0.9	1.1	2.4	3.3	2.6
PEP/WIESE/BOE GROUP													1.3	1.5	1.9	3.4	2.4
BIDVEST																1	0.9
NASPERS													0.3	0.4	0.5	1.2	0.8
ANGLOVAAL - MENELL																0.4	0.7
DATATEC																0.6	0.5
JOWELL/CORONATION GROUP												0.7	0.5	0.4	0.4	1	0.4
VENTER GROUP												0.5	0.5	0.4	0.5	0.5	0.4
PICK N PAY													0.3	0.3	0.5	0.4	0.4
ANGLOVAAL			1.5	3	2.9	3.6	3.4	2.9	2.9	2.5	2.2	2.2	2.4	2.1	2.1	1.7	1.7
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
NOTE: Top Five Groups control:	62.9	54.7	66.4	72.7	82.3	83.7	82.6	82.8	84.9	83.8	80.3	81.2	85.1	83	82.2	72.4	65.7

Source: McGregor's Who Owns Whom (various years)

Note: Black groups includes all companies which have significant black influence

As the prospects of a political settlement between the apartheid state and the African National Congress tentatively gained momentum over the late 1980s, the potential implications of scholarship for what might be appropriate post-apartheid economic policies became increasingly relevant. Three prominent themes emerged from scholarship over the transition, with associated implications for post-apartheid policy.

4.1.1 Late apartheid industrialisation as a case of failed import substituting industrialisation (ISI)

A dominant and durable characterisation of the failure of apartheid industrialisation has been as a case of import substituting industrialisation (ISI) which had run out of steam by the end of the 1980s (McCarthy 1988; Gelb 1991; Belli et al. 1993; Lall 1993; Fallon and de Silva 1994; Moritz 1994; Joffe et al. 1995). ISI as a strategy for industrialisation was conceptualised by structuralist economists in ideal type terms as a sequential process commencing with the replacement of imports in relatively “easy” sectors, typically consumer goods. Import replacement is then systematically deepened through the formation of backward linkages to promote the localisation of more challenging or “difficult” intermediate inputs and capital goods sectors, followed by a final stage of export orientation (Hirschman 1968; McCarthy 1988; Fine and Rustonjee 1996). With a heavy emphasis on the role of tariff policy it is argued that ISI commenced with the introduction of the Tariff Act in 1925, but had run into a dead-end by the 1980s (McCarthy 1988). However, not all who characterised the pattern of South African industrialisation as having followed an ISI path agreed that ISI had failed. Bell (1993, 1995) argued that the full scope for

ISI had not been exhausted and that there remained considerable scope to pursue import replacement.

Three main variants of the “failed ISI” hypothesis can be discerned. The first and most influential is the neoclassical view that trade policies, combined with other distortionary interventions in the operation of market mechanisms, encouraged a bias in favour of production for the domestic market over the export market and in favour of capital- over labour-intensive sectors and production techniques. Weak industrial diversification, output and export growth was attributed to an anti-export bias with much effort expended on computing measures of anti-export bias. The portrayal of South Africa as a putative case of failed ISI was linked to the evolving narrative that the superior performance of the export-oriented east Asian economies had been due to the absence of trade and other distortions (or policies which offset any anti-export bias) in contrast to the interventionist import substitution policies associated with less well performing Latin American economies, with South Africa often compared with the latter (Holden 1992; Belli et al. 1993; Moritz 1994). Further parallels were drawn between South Africa and Latin America with the latter’s inward industrialisation efforts linked, as part of a cautionary tale, to “populist” economic policies such as extensive redistribution of wealth through fiscal mechanisms, encouragement of large wage increases, and unsustainable macro policies such as monetisation of the public debt (Moll 1991b; Lipton and Simkins 1993).

The failed ISI hypothesis was in turn linked to a broader market distortions perspective which argued that South African manufacturing was systematically skewed against those sectors in which it had a putative competitive advantage,

particularly its abundance of unskilled labour discussed below. Echoing a prominent theme emergent in the international literature that financial markets were being prevented by state intervention from working efficiently due to “financial repression”, although not specifically using the term, it was argued that South African real interest rates and credit allocation policies artificially lowered the cost of capital and hence contributed to the unduly capital intensive character of the manufacturing sector (Fallon and de Silva 1994). With industrial policy conveyed as having been overwhelmingly dominated by instruments of import protection, trade liberalisation was the obvious route forward in conjunction with the removal of other distortions.

A second variant of the “failed ISI” hypothesis highlighted the negative impact of racial inequality on domestic demand as the major impediment to greater import replacement and industrial dynamism. Drawing on French regulation theory, Saul and Gelb (1981) and Gelb (1991) argued that apartheid South Africa represented a specific and deformed case of a more general “Fordist regime of accumulation” said to typify prevailing global capitalism. South Africa’s variant, “racial Fordism”, obstructed fuller development of import substitution because economies of scale arising from “Fordist mass production” were impeded by the lack of a corresponding “Fordist mass consumption” due to inadequate black disposable income as a consequence of apartheid’s discriminatory policies. In broad brush strokes policy should promote both redistribution of incomes and shift production towards provision of basic consumer goods. Fine and Rustonjee (1996) criticised this “racial Fordist” interpretation as an inappropriate overlaying of imported theory on South African realities.

Also using “Fordism” as a jumping-off point, the work of the Industrial Strategy Project (ISP) (Joffe et al. 1993, 1995) located South Africa’s “failed ISI” within a “post-Fordist” paradigm in which global manufacturing was said to have shifted away from old Fordist models of mass production of undifferentiated products to “flexible specialisation” and “mass customisation”. South Africa’s failed ISI reflected outdated production systems and the rigid and hierarchical management of the division of labour forged in a racially discriminatory context. The ISP drew significant inspiration from attempts to extrapolate a more generalisable development model from “clusters” of relatively small firms in specific locales such as the “Third Italy”, the appropriateness of which have been heavily contested.⁹ The major recommendations of the ISP comprised a combination of trade liberalisation, industrial policy support focussed on small and medium enterprises in niche sectors, stronger competition policy and a corporate governance regime including a broader range of stakeholders on company boards.

4.1.2 Labour markets, skills and distributional battles over wages and profits

A second significant and enduring neoclassical explanation advanced for late-apartheid industrial stagnation, focuses on developments in relation to the “cost” and “quality” of the apartheid industrial workforce. Prior to the Second World War cheap black labour power had been functional to the development of South African

⁹ The argument that late twentieth century manufacturing required a shift from standardised mass production led by large firms to a “post-Fordist” model of small firm “flexible specialisation” emerged from Piore and Sabel’s (1984) efforts to extrapolate their interpretation of industrial organisation in the Emilia-Romagna region of Italy into a generalised industrialisation model. See Amin (1989) and Fine (1995) for historical and theoretical critiques of this model.

capitalism, notably in mining and agriculture.¹⁶ However, post-war apartheid's social controls over blacks' physical and occupational mobility was said to have become an increasing fetter on capitalist industrial development with the costs, based on the migrant labour system and educational and occupational exclusion of blacks, progressively outweighing their benefits.¹⁷ Post-war industrialisation increasingly required a stable, urban and better educated workforce. However, even as apartheid's racist occupational strictures were gradually relaxed over the 1980s, the legacy of grossly unequal educational and skills provision to blacks resulted in an inadequate supply of skilled workers (Lipton 1986).

Furthermore, labour market arrangements created in the 1920s under the Pact government's "civilised labour" policy to privilege white over black workers were said to have been "excessively" extended to black unskilled workers over the 1980s.¹⁸ From 1979 black workers won the right to join and form trade unions which over the 1980s increasingly became embedded in a pre-existing industrial council system with its major distinguishing feature being its ability to extend wage agreements between unions and participating firms across an entire industry (Moll 1996). In short, black unskilled workers were said to be overpriced in the context of an undersupply of skilled workers.

¹⁶ Both mining and agricultural capital supported the introduction of the pass laws and the Land Act of 1913, aimed at the creation of a reserve army of black African rural labour to be drawn upon as required (Lipton, 1986).

¹⁷ The nature of the relationship between apartheid and capitalism has been heavily contested by "liberal" and "radical" scholars, particularly the extent to which apartheid was functional or not to capitalist interests. See Freund (2010) for an overview and synthesis of this debate.

¹⁸ Indeed Lipton (1984) makes a direct historical link between the "civilised labour" policy and the introduction of the 1925 Tariff Act by the Pact government, arguing that the latter was required to offset the cost disadvantages introduced by higher wages for white workers.

Nattrass (1989) advanced this argument further, arriving at estimates that aggregate South African manufacturing profit rates had declined between 1960 and 1986 due to the rising share of wages relative to the surplus accruing to manufacturers. Nattrass (2003) attributes this increase in the general manufacturing wage share specifically to the rise, over the 1980s, of the wages of black unskilled workers as a consequence of the extension of collective bargaining rights hitherto restricted to whites since the 1920s. The policy implication drawn was that the labour market regime should be liberalised in order to allow the price of (predominantly black) unskilled labour to fall, while improving the quality of education and skills provision for black South Africans in particular.

Extensive distortions said to prevail in trade, labour and capital markets formed part of a more generalised contention that apartheid industrialisation failed chiefly due to a range of product and factor market distortions. The implications flowing from this analysis were that post-apartheid policy should primarily be focused on the removal of the multifarious product and factor market distortions in the economy.

4.1.3 Industrialisation based on a Mineral-Energy-Complex

Fine and Rustomjee (1996) set out an alternative conception of South Africa's industrialisation rejecting "failed" ISI hypothesis. They argue that while there was significant progress with import replacement no coherent strategy of ISI, proceeding systematically from consumer goods to intermediate and capital goods, was ever mounted. While the influence of tariff policy was important a far more

fundamental role was played by SOEs in shaping South Africa's distinct industrialisation path.

Rather, they argue that South African industrialisation has been based on a Mineral-Energy-Complex (MEC) in two distinct but interlocking senses. First industrialisation has been concentrated in mining and heavy mineral-processing sectors, drawing on extensive use of electricity (itself reliant on coal mining). SOEs have played an instrumental role in this industrialisation path, through the provision of abundant and cheap electricity generation, rail and port infrastructure, as heavy industry producers themselves notably of steel and petro-chemicals from coal, and through the provision of finance by the IDC in particular. However the MEC is said to be not only a manifestation of industrial structure but also the political economy process through which this structure arose, that is a South Africa specific "system of accumulation" (Fine and Rustonjee 1996; Freund 2010; Ashman et al. 2013a).

The MEC as a system of accumulation involved intensifying intertwining of historically English and Afrikaner capitals on the one hand and public and private capitals on the other. It entailed a confluence of interests and strategies favouring expansion of capital and energy-intensive heavy industries, which were bolstered by periodic gold and oil price booms during the 1980s. Thus no coherent strategies were mobilised for diversified manufacturing, which might have included a coherent approach to import replacement. Downstream sectors were protected rather than developed through uncritical and unconditional import protection (Fine and Rustonjee 1996; Ashman et al. 2013a).

Bell and Farrell (1997) have contested the MEC hypothesis on two main grounds. First, that it ignores the significant progress made with import replacement since the 1920s. Second, that a good alternate explanation for the expansion in mineral-processing mega-projects were the high commodity prices that prevailed during the 1980s. Fine and Rustonjee (1998) responded that it was not their contention that there had not been significant import replacement, but rather that there no coherent ISI strategy had been mounted, understood as a shift from consumer goods backwards to capital and intermediate goods and ultimately to exports. Second, irrespective of the influence of commodity prices Bell and Farrell overlooked their argument of the MEC as a particular “system of accumulation” and not simply a set of sectors. Furthermore, there was no generalised commodity boom over the 1980s. High commodity prices did indeed prevail in two commodities relevant to the South African economy. High energy prices due to international oil shocks may have acted as a spur, for instance, to Sasol’s coal-to-oil programme. Similarly, periodic gold price booms manifested over the 1980s acted as a temporary spur to an otherwise declining gold mining industry. However, it is clear that no such commodity boom prevailed in iron ore and steel over the 1970s and 1980s, as reflected in Figure 7.1 and Figure 7.3 in Chapter 7.

The MEC hypothesis provides a more coherent account of apartheid industrialisation than market distortions perspective. It reflects how the strategic orientation of large private and state-owned business groups, was driven by an increasing intertwining of their interests. This involved accumulation based on the development of capabilities in mining and heavy industry combined with corporate growth through acquisition across many other sectors of the economy. This “system of accumulation” blunted any impetus for the development of forward linkages out

of MEC sectors and more generally to develop sufficiently competitive capabilities in other manufacturing sectors. In contrast to the policy implications arising from the neoclassical market distortions perspective, active state intervention was required to harness the strengths of the conglomerate structure that had emerged out of the MEC and to re-orient it towards a more diversified industrial trajectory linked both to basic needs and exports. However, the market distortions perspective proved decisive in influencing post-apartheid policy.

4.2 Getting into GEAR

4.2.1 Competing visions of industrial restructuring

Two broad and incompatible visions of industrial restructuring began to solidify over the early 1990s amongst a flurry of publications generated variously from academic and commissioned research, international financial institutions, and business and labour constituencies.

The first vision was consistent with ascendant Washington Consensus policy prescriptions emphasising “disciplined” macroeconomic policies, market determined outcomes and trade liberalization (Williamson 2009). This orthodox vision drew on the late-apartheid government’s normative economic model (NEM) (Central Economic Advisory Service 1993), which itself closely resembled the analysis and policy prescriptions of the International Monetary Fund (Weeks 1999; Marais 2011). Research produced by the World Bank over the transition, although demonstrating some nuance in its earlier stages, increasingly converged with the NEM and IMF positions. A number of business inputs also supported an orthodox

policy, most influentially the *Growth for All* manifesto (South Africa Foundation 1996) issued on behalf of the fifty-odd largest business groups in the economy by the South Africa Foundation.¹⁹ A sharp depreciation of the currency in 1995 and deteriorating macro balances served as the pretext for Minister of Finance Trevor Manuel to commission the drafting of the Growth Employment and Redistribution (GEAR) (Department of Finance 1996) policy framework which was rammed through ANC and alliance structures as non-negotiable (Marais 2011). GEAR represented the “adoption of the essential tenets and policy recommendations of the neo-liberal framework advocated by the IMF in its structural adjustment programmes” (Adelzadeh 1996: 67) and was “supportive of, and broadly consistent with the central thrust of the South Africa Foundation report” (Habib and Padayachee 2000: 252). Indeed Nattrass (1996) treats the *Growth for All* and GEAR documents as virtually synonymous.

GEAR (Department of Finance 1996) envisaged a private investment-led and export-oriented manufacturing boom through animating “investor confidence” chiefly via contractionary budget and inflation control, trade liberalisation and labour market deregulation. This strategy was predicted to raise growth to 6% per annum and create an annual average of 410,000 net new jobs over four years. While public investment was desirable in principle, fiscal discipline was necessary to counteract a hypothesised crowding-out of private investment by public expenditure. Capital controls were identified as an impediment to foreign direct

¹⁹ The South Africa Foundation (SAF) was initially established by Anglo in the 1950s and later joined by Rembrandt to lobby and influence opinion makers in the US and UK as a counterweight to growing pressure for disinvestment and sanctions against the apartheid regime (Innes 1984; Pallister et al. 1988; Dommissie and Esterhuyse 2009). Considerable continuity is evident in the evolution of the SAF into its current incarnation as Business Leadership South Africa (BLSA).

investment (FDI) with capital account liberalisation to be accelerated to attract foreign capital inflows necessary to bridge the gap between savings and investment. FDI was axiomatically assumed to bring with it technology transfer, managerial efficiencies and access to markets. GEAR committed to accelerating already far-reaching trade liberalisation underway as part of South Africa's unilateral commitments in 1993 to the General Agreement on Tariffs and Trade (GATT). A temporary set of tax and grant-based "supply side measures" would be put in place to assist SME's in particular to adjust to the rapid increase in international competition. A competitive exchange rate was identified as a pre-requisite for a successful export-oriented manufacturing drive. Mirroring the SAF's *Growth for All* document GEAR argued for the establishment of a two-tier labour market, estimating that two thirds of predicated net new jobs would arise from labour market deregulation, while the remaining third would be generated by a private investment boom in export-oriented manufacturing. New fixed investment would occur predominantly through new entry: of foreign direct investors, domestic small and medium manufacturers and emergent black-owned firms. GEAR also envisaged extensive privatisation of state assets to raise efficiencies and funds for fiscal consolidation.

A second vision of restructuring could be located loosely within a Keynesian/Structuralist perspective drawing on scholarship of academics sympathetic to the liberation movement, particularly the African National Congress (ANC) and the Congress of South African Trade Unions (Cosatu). An ANC convened a Macroeconomic Research Group (MERG) who's report (Macroeconomic Research Group 1993) with the work of a Cosatu convened Industrial Strategy Project (ISP) feeding (somewhat uneasily) into it. In a similar vein a major labour market study

was undertaken through the offices of the International Labour Organization (ILO) under the auspices of a Labour Market Commission (Standing et al. 1996). MERG and the ILO reports argued that corporate profitability, rather than a vague appeal to “investor confidence”, was the primary determinant of fixed investment. Corporate profitability also functioned to mobilise the single most important source of domestic savings: retained corporate earnings. MERG highlighted that no empirical evidence had been adduced to support the assertion that public investment would “crowd out” private investment. Conversely public investment was essential to crowd in private investment in conjunction with industrial policy aimed at reorienting manufacturing to more labour intensive sectors, a competitive real exchange rate supportive of manufacturing exports and positive real interest rates that were not so high as to discourage fixed investment. Employment, rather than being construed as exclusively a function of wage rates, is an outcome of a combination of factors: levels of effective demand, sectoral patterns of investment and labour market policies aimed at increasing employee skill and commitment (Macroeconomic Research Group 1993; Standing et al. 1996). Rather than leaving the conglomerates to arrange their own restructuring these measures needed to be supplemented with a suitable competition policy, corporate governance arrangements that incorporated labour and state representatives, and a capital issues commission to vet new capital calls.

4.2.2 Post-apartheid policy: a confluence of scholarship, ideology and interests

The apartheid government had become increasingly influenced by the wave of conservative economic policy discourse that had swept developed and developing

countries alike over the 1980s and was being actively promoted by international finance institutions such as the International Monetary Fund (IMF) and the World Bank (Holden 1992; Macroeconomic Research Group 1993). Since the early 1980s the apartheid regime had implemented a range of orthodox reforms, albeit unevenly and with periodic reversals. Monetary policy was tightened over the 1980s with inflation control established as its *de facto* primary objective by 1989, the foreign exchange market was liberalised and significant trade liberalisation had been implemented while two of the largest state-owned enterprises were privatised: Sasol in 1979 and Iscor in 1989 (Macroeconomic Research Group 1993; Bell 1995; Standing et al. 1996; Isaacs 2014). Substantial deregulation of the financial sector had already been underway since the mid-1980s (Verhoef 2009; Newman 2010; Ashman and Fine 2013; Isaacs 2014).

Both the IMF and the World Bank engaged intensively in debates on post-apartheid economic policy through a flurry of “informal” policy papers. As neither were significant lenders to the South African government their influence lay primarily in the realm of ideas. When South Africa’s transitional government signed off on a relatively small IMF loan in 1993 of US\$850m, to assist with balance of payments difficulties, Finance Minister Derek Keys experienced no difficulties in securing concurrence of the ANC’s most senior Department of Economic Policy officials with a statement of intent committing the incoming government to restrictive monetary policy, no expansion of the fiscal deficit or increases in taxation (Marais 2011). This group accompanying Keys included Trevor Manuel (subsequently Minister of Trade and Industry and then Finance), Tito Mboweni (Minister of Labour and then Governor of the Reserve Bank) and Alec Erwin (Minister of Trade and Industry and then Public Enterprises). This group also rubber-stamped South Africa's revised

offer to the GATT in 1993 that committed the country to deep unilateral tariff liberalisation (Hirsch 2005). Their readiness to do so reflected their belief that these commitments represented sound economic policy, not some reluctant capitulation to the international financial institutions (Marias 2011).

The IMF consistently maintained a strong market fundamentalist line that South Africa should rapidly liberalise and deregulate markets, particularly trade, the capital account and labour markets. The apartheid government's own Normative Economic Model (NEM) (Central Economic Advisory Service 1993) was in turn largely consistent with prevailing IMF dogma (Macroeconomic Research Group 1993; Standing et al. 1996; Marais 2011).

One thorny issue is how to make a distinction between “scholarly” and “ideological” argumentation. While it is necessarily a matter of judgement where the boundaries of “scholarly” contestation of ideas ends and that of ideology begins some useful guidance can be derived from the World Bank itself. In an assessment the Bank commissioned into its own research output between 1998 and 2005, the so-called Deaton Report, the authors make a distinction between research which represents a “balanced view of the evidence” together with “appropriate scepticism” in assessing evidence, as distinct from a “proselytising” or “advocacy” role that champions pre-conceived views (Banerjee et al. 2006: 6).

A good example of the transition from scholarship to ideology is evident from the shifting treatment by the World Bank of trade policy over South Africa's transition. Initial work by the Bank on the state of South Africa's trade regime produced a detailed and useful empirical assessment of state of the trade regime (Belli et al.

1993). The report reflected that South Africa did not display particularly high levels of protection relative to other developing countries, but found the complexity and opacity of the trade regime, and its lack of support for exporters problematic. Notwithstanding this measured assessment, trade policy in practice was concurrently being formulated as if the economy were grossly overprotected. Indeed subsequent research by the World Bank had to rapidly play “catch up” as it sought to establish evidence of a positive impact of trade liberalisation that had by the late 1990s gone far beyond the Bank’s original recommendations (Lewis 2001b; Tsikata 1999).

Over the latter half of the 1980s the National Party government under PW Botha faced a mounting crisis of legitimacy. Growth had stalled and unemployment was rising. Rising resistance to the apartheid regime amongst the black majority could neither be contained through co-option nor fully subdued through increasingly militarised repression. The dominant conglomerate groups saw little prospect of the resumption of accumulation unless a political settlement with the ANC could be reached, and had lost confidence that Botha was capable of negotiating such an accord (Morris 1991; O’Meara 1996). From at least the late 1980s the large conglomerate groups, led by Anglo American, initiated a series of engagements with the ANC leadership in exile and the leading internal anti-apartheid structure, the United Democratic Front (UDF). These engagements proliferated after FW de Klerk (who replaced Botha in 1989) signalled a willingness to negotiate a settlement, by releasing Nelson Mandela and unbanning the ANC and other political parties in 1990. De Klerk recognised that the NP’s core political constituency had changed fundamentally by the late 1980s with white working-class interests having given way to a more affluent white upper-middle class and the interests of large Afrikaner

business groups that had increasingly become intertwined with historically English capital. Externally, the implosion of the Soviet Union and fall of the Berlin wall deflated historical NP anti-communist paranoia (O'Meara 1996; Marais, 2011).

The conglomerates initiated intensive and wide-ranging efforts to influence the direction of post-apartheid economic. While the SAF's 1995 *Growth for All* manifesto was the most prominent public expression of these efforts, extensive influence leading up to it was brought to bear on key ANC politicians and its Department of Economic Policy (DEP) staff.¹⁷ Concerns for safeguarding conglomerate interests were evident in the ring-fencing of key economic policy positions under NP control in the Government of National Unity.¹⁸ Most influential was Derek Keys, drafted in from the Gencor conglomerate, and appointed between 1991 to 1994 into a succession of ministerial posts with rising effective control over the trade, industry and finance portfolios.¹⁹ The NP also retained control over the posts of Governor of the Reserve Bank and Minister of Mineral and Energy Affairs.²⁰ The negotiated 1993 constitution entrenched many of the conglomerates' demands including protection of property rights and an independent central bank with a primary

¹⁷ A number of examples illustrate the point. Rick Menell, head of the Anglovaal conglomerate, hosted Nelson Mandela at his home after Mandela's release from prison and subsequent divorce from Winnie Madikizela-Mandela, and facilitated multiple meetings with leading conglomerate figures (Secombe 2013). There were multiple meetings between Anglo American and a small coterie of ANC political and economic policy leaders (Godsell 2016). Derek Keys cultivated a close relationship with leading ANC economic policy staff including Trevor Manuel, Alec Erwin and Tito Mboweni through their participation in the National Economic Forum (O' Malley, n.d.); Internships were facilitated at Goldman Sachs in New York for leading DEP staff including Tito Mboweni, Lesetja Kganyago and Maria Ramos (Mohamed 2010).

¹⁸ Between 27 April 1994 and 3 February 1997 South Africa was governed by a Government of National Unity (GNU) under an interim Constitution.

¹⁹ Key's moved from being the Executive Chairman of Gencor, which was from 1986 Sanlam's mining and industrial conglomerate, into a series of ministerial posts. In rapid succession Keys became Minister for Economic Co-ordination and Trade and Industry in 1991, took on the Finance portfolio in 1992 and was formally appointed Minister of Finance in 1994. Keys was replaced by banker Chris Liebenberg when he resigned in 1994.

²⁰ Chris Stals served as Governor of the Reserve Bank from 1989 to 1999. Longstanding NP minister Pik Botha occupied the position of Minister of Minerals and Energy between 1994 and 1996.

mandate to “protect the internal and external value of the rand”. For conservative Finance Minister Derek Keys, who so skilfully ushered in a settlement overwhelmingly favourable to the conglomerates, the new democratic constitution provided a reasonable framework for the conglomerates who would have to reach compromises in the new environment, including with labour. Thus, even Keys felt that the conglomerates had gone too far in their refusal to reach such an accommodation as they pressed ahead with even stronger demands.

And business having got a constitution which guaranteed property rights and a market friendly approach and so on veered off into a sort of laissez-faire position where they expected government to discipline labour and resented every aspect in the economy which didn't allow them to operate like Victorian capitalists ... Business wanted to increase its freedom of action. It didn't want to work in a corporatist environment. You have all this free market talk going on and so on, you know and I know that the world in fact doesn't quite work that way, but this is the plot and that's what they wanted. They thought, OK, we've got a good constitution now and government should be in a position seeing it's got the alliances on, government should be in a position to control COSATU and so we're going to go for the greatest freedom of action that we can possibly go for.

(Derek Keys in O'Malley n.d.).

A sharp disjuncture is evident between the rhetoric of economic orthodoxy emphasised in GEAR and the support provided in practice for capital-intensive resource-processing projects over the transition and into the post-apartheid period. This support included large-scale IDC financing, fiscal support through generous tax

allowances, and favourable electricity pricing by Eskom. The flurry of expansions over the early 1990s served to support the internationalisation of the conglomerates by raising their global scale, *inter alia* rendering them more difficult to regulate under a post-apartheid regime as state intervention shifted to facilitate offshore listings.²¹ While the conglomerates attained most of their *Growth for All* policy wish list, two demands were not secured: a deregulated two-tier labour market and more extensive privatisation.

A critical question that arises is how the political credibility for the orthodox policy orientation of post-apartheid economic policy argued for by the conglomerates, and strongly supported by influential officials within the ANC, was secured. Indicative of emerging conglomerate thinking is evident in Derek Keys' 1992 response to how orthodox policies could be secured in the face of expectations of the black majority for dramatic socio-economic change:

As I say, you will have to come to an accommodation with the black elite and you have to keep the black proletariat or, if you like, the uncoloured proletariat, quiescent. It's what you have to do.

(Derek Keys in O' Malley n.d.).

Part of such an accommodation, as envisaged by MERG and hinted at by Keys, might have been with the predominantly black labour movement to deepen industrial

²¹ In the process a handful of former State Owned Enterprise executives were propelled into major global positions. These include Mick Davis, former treasurer of Eskom who took up positions in Billiton and then Xstrata and Con Fauconnier, former head of Iscor mining, who became Chief Executive of Kumba Resources. Keys re-joined the unbundled Billiton as director immediately after resigning his post as Minister of Finance.

diversification and growth. However, the conglomerates initiated the mechanism of Black Economic Empowerment (BEE) their chosen instrument of political legitimisation. This involved asset transfers to newly established BEE consortia headed by politically prominent ANC figures, commencing in 1993 with the sale by the archetypal Afrikaner conglomerate Sanlam of Metropolitan Life to New Africa Investment Limited (NAIL) followed by Anglo American's 1994 sale of industrial subsidiary Johannesburg Consolidated Investment (JCI) to the National Empowerment Consortium. Anglo's sale of JCI was consciously informed by its symbolic sale of General Mining in 1965 to a subsidiary of Sanlam: Federale Volksbelegings (Cargill 2010). The development of this first phase of BEE reflected an accommodation, that at least for a period of time, provided legitimisation for immediate post-apartheid policy direction, as reflected by an influential economist close to the conglomerate and financial sector:

This development, loosely called "black empowerment," has clearly helped to legitimize the established financial structure for the new South Africa.

(Kantor 1998: 69)

4.3 The co-evolution of scholarship and post-apartheid policy

4.3.1 The "successes" of macroeconomic stabilisation and trade liberalisation

Economic policy since the early 1990s has strongly emphasised macroeconomic stability understood primarily as control of inflation and government debt. As set out in the Growth Employment and Redistribution (GEAR) (Department of Finance

1996) policy framework, macroeconomic stabilisation over the 1990s was combined with comprehensive trade and capital account liberalisation, with the latter objective particularly sought by the large conglomerate groups. GEAR was reflective of the view that had solidified in scholarship that apartheid industrialisation had failed as a consequence of pervasive market distortions (particularly those introduced by tariff and labour market policies) compounded by the legacy of racially discriminatory education and skills provision (Lipton 1986; Nattrass 1989; Holden 1992; Fallon and de Silva 1994; Moritz 1994). GEAR also reflected the solidifying Washington Consensus promoted by International Financial Institutions (IFIs) with its emphasis on macroeconomic stabilisation, trade liberalisation and the general superiority of market-determined outcomes (Williamson 2009). GEAR relied upon theoretical and empirical assumptions that were heavily contested. These included the need for “stabilisation” measures to drastically reduce levels of inflation and public debt; that public investment crowded out private; and the multiple unrealistic assumptions on which the trade theory of comparative advantage rests (Adelzadeh 1996; Michie and Padayachee 1998; Weeks 1999). GEAR conjectured that South Africa’s highly concentrated corporate structure would automatically restructure along more labour-intensive and export oriented lines through a combination of shifts in relative prices induced by the reduction of market distortions and through new entry: of foreign investors, small and medium and emerging black owned firms. Great faith was placed in the role of foreign direct investment to help bridge the savings-investment gap, transfer technology and managerial expertise and facilitate access to markets. A limited role was ascribed to industrial policy in GEAR, largely restricted to a set of “supply-side” measures aimed at assisting small and medium manufacturers adjust to trade liberalisation, while ignoring the parallel and extensive *de facto* public support being

proffered to large capital-intensive mineral-processing expansions. The major exceptions to widespread liberalisation set out in GEAR were the introduction of legislation providing stronger protection to workers and advancing employment equity and limited privatisation. This period of economic policy under the oversight of President Thabo Mbeki has been conventionally conveyed in the literature as a success. However, success has been construed far less in terms of economic outcomes like growth, employment and diversification of exports than progress with intermediate measures like lower levels of inflation, fiscal deficits and import tariffs (Tsikata 1999; Lewis 2001a; Edwards and van de Winkel 2005; Hirsch 2005; Du Plessis and Smit 2007).

The uncritical post-apartheid embrace of trade liberalisation by mainstream scholarship and orthodox policy makers overlooked serious theoretical and empirical problems. Key assumptions include that full employment prevails both before and after liberalisation, that capital is immobile and that technological acquisition is costless (Lall 1993, 1992).²² Bhagwati (2002), one of the most vociferous proponents of trade liberalisation states bluntly that the case for liberalisation rests ultimately on empirical rather than theoretical grounds.²³ The relationship between trade and growth remains ambiguous due to the multiple and

²² The emerging neoclassical “new growth theory” pointed out, even within the strictures of neoclassical assumptions trade liberalisation is likely to generate only once-off static efficiencies (Lucas 1988). Furthermore developments in neoclassical “new trade theory” pointed to the theoretical case for strategic protection, even as it advised developing countries to steer clear from doing so in practice (Krugman 1987).

²³ “So those who assert that free trade will also lead necessarily to greater growth either are ignorant of the finer nuances of theory and the vast literature to the contrary on the subject at hand or are nonetheless basing their argument on a different premise: that is, that the preponderant evidence on the issue (in the postwar period) suggests that freer trade tends to lead to greater growth after all. In fact, where theory includes several models that can lead in different directions, the policy economist is challenged to choose the model that is most appropriate to the reality she confronts.” (Bhagwati 2002: 42).

complex mechanisms through which trade may impact growth (Deraniyagala and Fine 2001; Pacheco-López and Thirlwall 2009; Cattaneo 2011). Empirical assessments of the relationship between trade and growth have proved ambiguous due to difficulties in finding appropriate measures of either liberalisation or openness, the direction of causality and questions of the robustness of econometric methodology (Pritchett 1996; Rodriguez and Rodrik 2001; Rodriguez 2007). By the World Bank's own assessment, the South African economy was not in fact excessively protected (Belli et al. 1993) and displayed far higher levels of import penetration (at 25%) than the Latin American average (around 10%) (Moritz 1994). Rather the main problems lay with the complexity, variability and discouragement of exports (Belli et al. 1993). A substantial literature has emerged estimating the extent to which trade liberalisation has indeed taken place (Fedderke and Vaze 2001; Rangasamy and Harmse 2003; Edwards 2005) and seeking to link liberalisation to selected outcomes measures such as sectoral productivity and export growth (Tsikata 1999; Jonsson and Subramanian 2001; Edwards 2004; Edwards and Lawrence 2008). These studies suffer from the theoretical limitations discussed above, methodological flaws in measures of effective rates of protection and anti-export bias and a focus on the impact of liberalisation on selected narrow measures such as exports while neglecting the impact on the balance of payments and downplaying the link between liberalisation and job losses (Cattaneo 2011), with an artificial distinction between job losses attributed to technological change as opposed to liberalisation (Jenkins 2004; Mohamed and Roberts 2008).

Within the context of an emphasis on macroeconomic stabilisation and liberalisation GEAR's limited incorporation of industrial policy was strongly influenced by the work of the Industrial Strategy Project (ISP) (Joffe et al. 1995) with

its “post-fordist” emphasis on the need to foster flexible small and medium size enterprises. The resulting “supply side measures” were spread across multiple sectors and objectives with sector specific programmes limited to automotives and clothing and textiles (Cassim 2006). In parallel with this formal policy orientation, there has been significant post-apartheid continuity in public support for upstream heavy industries such as steel, chemicals and aluminium. With the exception of the automotive sector the dominance of heavy industries in industrial structure have prevailed, rather than the predicated diversification that would be induced by orthodox reforms (Roberts and Rustonjee 2010; Mohamed and Roberts 2008).

As the formal orientation of economic policy drew implicitly on orthodox scholarly and ideological argumentation, corporate praxis was influenced by the international finance literature that narrowed the presumptive role of the firm and its managers to a single function: maximising value for shareholders. This required solving an agency problem of securing alignment of management behaviour with shareholder objectives (Mohamed 2010). Academics closely aligned to the South African corporate and financial sphere both embraced and adapted this agency paradigm, providing intellectual support for a model of corporate governance that combined the Anglo-Saxon emphasis on shareholder value maximisation with the legitimating role of Black Economic Empowerment ownership transfers to politically influential black individuals (Barr et al. 1995; Kantor 1998; Malherbe and Segal 2001).

4.3.2 From macroeconomic stability to microeconomic reform, higher public investment, and intensification of BEE

The early 2000s saw important, albeit limited, shifts in policy responding to increasing tensions within the ruling tripartite alliance over weak economic growth and rising unemployment, the conservative orientation of policy and frustration at the slow pace of Black Economic Empowerment. Macroeconomic policy continued to be cast as “state of the art” with weak economic performance attributed to a lack of microeconomic reform and associated institutional deficiencies (Edwards and Van de Winkel 2005; Cassim 2006; Naidoo 2006; Faulkner et al. 2013; Kaplan 2015a, 2015b). Inadequate reforms were said to include a lack of labour market deregulation, incomplete trade liberalisation and even less complete privatisation.

An influential body of work emerged alleging the persistence of a range of directly unobservable micro-economic distortions that were said to reflect that average pricing markups in South African manufacturing exceeded those of developed and developing economies alike (Edwards and van de Winkel 2005; Fedderke and Schaling 2005; Fedderke et al. 2007; Aghion et al. 2008, 2013; Fedderke 2013; Fedderke et al. 2016). These claims have exerted considerable influence on multilateral institutions such as the OECD, World Bank and IMF publications and the country’s National Development Plan (National Planning Commission 2012). The theory, methodology and interpretation of econometric results relied on to attempt to establish a causal link between markups and productivity growth is deeply questionable (Zalk 2014). Re-creation of estimates demonstrate that, notwithstanding evident data problems, there is no suggestion that South African manufacturing markups have been, on average, higher than other countries.

Compared to other broad sectors, South African manufacturing markups have been lower than all but the gold mining sector since the 1990s and have declined dramatically over the 2000s. By contrast sectors with much higher average markups than manufacturing are the Financial, insurance and real estate (FIRE) sectors, wholesale and retail, other private services and coal and platinum mining. Average manufacturing markups do mask considerable variation amongst and within individual manufacturing sectors. This is consistent with a process of intense post-apartheid corporate and industrial restructuring in which conglomerates unbundled businesses considered to be “non-core”. However they made aggressive acquisitions to consolidate control over sectors amenable to the preservation of monopoly rents, including selected manufacturing industries. The conglomerates have exited industries where high levels of competition have prevailed or intensified, notably sectors experiencing rapid rises in import penetration arising from trade liberalisation (Chabane et al. 2006; Makhaya and Roberts 2013, 2014).

Institutional deficiencies highlighted under the microeconomic reform agenda include weak education and skills development, inadequate regulation of network industries, and ineffective competition policy enforcement. These and other institutional weaknesses have also been emphasised in various measures of “good governance” such as those constructed by the World Bank in its Ease of Doing Business indicators (World Bank 2016 n.d.-a) and Investment Climate Assessments (World Bank 2011).

4.3.3 A Developmental State?

An increasingly embattled Mbeki presidency began to project the nomenclature and rhetoric of a “Developmental State” onto government amid rising pressure from two broad groupings within the tri-partite alliance, albeit with vastly differing intent and meaning. Both sought greater state intervention in the economy but for different reasons. One broad grouping comprised those dissatisfied with a conservative approach to economic policy and the other with the slow pace of transfer of black ownership and control of economic assets and wealth. These fault-lines were in turn reflected in the state itself. The Department of Trade and Industry (DTI) and newly created Economic Development Department (EDD) promoted a vision of reindustrialisation and diversification of manufacturing from its mining and heavy industry base in the face of growing dominance of the financial sector (Department of Trade and Industry 2007; Economic Development Department 2008). The DTI, as formal custodian of BEE policy, has also sought to temper criticisms of elite enrichment through the introduction of a broad-based BEE strategy and subsequent legislation including broader ownership and non-ownership elements (Republic of South Africa 2003). In practice departments such as Mineral Resources and Energy, and State Owned Enterprises have focused their licencing and procurement powers on the narrow objective of black ownership and resource transfers. A newly established and somewhat paradoxically named National Planning Commission (headed by former Minister of Finance Trevor Manuel) sought to temper and direct the notion of a Developmental State through a widely marketed National Development Plan (NDP) (National Planning Commission 2012). The National Treasury, National Planning Commission and South African Reserve Bank have

sought to “hold the line” on macroeconomic prudence, continuing to emphasise microeconomic reform with little attention to industrialisation.

An Accelerated and Shared Growth Initiative (ASGISA) (Presidency 2006) emphasised further microeconomic reform in conjunction with a recognition of the need for higher public expenditure to reverse weak investment performance. The role of state owned enterprises (SOEs) and public investment more generally thus shifted both to address weak fixed capital formation and to support of Black Economic Empowerment ownership transfers. Black Economic Empowerment was increasingly introduced in policy form in areas such as minerals and energy policy and public procurement. ASGISA also identified industrial policy as necessary to raise private sector investment and highlighted the long-standing practice of monopolistic pricing by upstream sectors such as steel and petrochemicals as a constraint to industrial diversification. Controversially, a group of predominantly Harvard based economists were drafted in by the National Treasury to provide *ex post* intellectual scaffolding for, and establish stronger influence over, the direction of the ASGISA initiative. Through this “Harvard Group” standard neoclassical interpretations of post-apartheid economic performance held back by market distortions were supplemented with a limited recognition of market imperfections and a theoretical if limited case for state intervention in areas such as currency misalignment and industrial policy (Hausmann 2008; Hausmann et al. 2008; Rodrik 2008).

Within this perspective industrial policy is conveyed as a reluctant but necessary choice in which the state is “doomed to choose” certain activities rather than others due to circumscribed market failures (Rodrik and Hausmann 2006).

Industrialisation may be impeded by various market imperfections due to appropriability problems, information asymmetries and coordination failures. There may be suboptimal investment in feasible new production opportunities due to the threat of new entrants rapidly eroding profitability in a newly created market. Temporary subsidisation may thus be required to overcome this appropriability problem analogous to time-bound rents embodied in patent protection. An asymmetric information problem arises between entrepreneurs with knowledge of a feasible production that may require such subsidisation or complementary public good, and state officials. Thus industrial policy should be conducted through processes of “self-discovery” between entrepreneurs and the state to identify these feasible investment projects and associated state support required, as far as possible through a technocratic process freed from political interference (Hausmann and Rodrik 2003; Rodrik 2004, 2008, 2009). This theoretical justification for industrial policy has been criticised for ignoring key structural features of the South African economy, notably the dominance of an MEC and the dramatic rise in the share and influence of the financial sector (Fine 2009a). It is removed from the logic of cumulative causation historical evidence of how successful industrial policy has taken place in practice, and places excessive faith on the role of new entrants. There is little if any engagement with the need to *reorient* the large business groups that dominate the economy or how political economy bargains would have to be recast to mount a serious industrialisation effort.

In an environment at least formally more open to industrial policy, a National Industrial Policy Framework (NIPF) (Department of Trade and Industry 2007) was launched in 2007 with implementation guided by subsequent annual Industrial Policy Action Plans (IPAPs) (Department of Trade and Industry various years).

These industrial policy documents place a strong emphasis on revitalising the engineering sectors on the back of rising public investment in areas such as electricity and rail, capital equipment and other fabricated inputs into mining in the context of a prevailing mineral commodity boom, and addressing the monopolistic practice of import parity pricing of steel and other inputs.

4.3.4 A corporatist alliance between “big business”, “big labour” and “big government”?

As the orthodox literature has grappled to fully account for weak manufacturing and more generalised economic performance amid an evident rise in tensions in social relations it has turned belatedly to institutional explanations beyond conventional measures such as “good governance” metrics. These explanations have drawn upon or been loosely informed by various strands of the institutional literature notably Varieties of Capitalism (VOC), the New Institutional Economics and a rapidly expanding Political Settlements literature. A common narrative has emerged of the post-apartheid political economy as a collusive arrangement between “big business”, “big labour” and “big government” cast either in VOC terms as an inconsistent mix of institutions, or more loosely as a broad corporatist arrangement.

Nattrass (2003; 2014) and Nattrass and Seekings (2010) and argue that South Africa’s post-apartheid political economy has been characterised both by policies and the exercise of interests (particularly by labour) that have exhibited contradictory elements of both “Liberal Market” (LME) and “Co-ordinated Market” (CME) forms of capitalism. This mismatch is said to have emerged as a result of adoption of neoliberal policies such as restrictive macroeconomic policy and trade

liberalisation on the one hand (associated with LMEs) in conjunction with strengthened labour market protections (prevailing in CMEs) rather than labour market deregulation. The confluence of this “institutionalised ideological mismatch” (Nattrass 2014: 67) was that profitability was sustained for manufacturing firms remaining in business by the combination of laying off workers and increasing mechanisation, with remaining relatively skilled workers achieving higher wages but productivity rising faster than wages.

This narrative has been extended, albeit delinked from any explicit reference to the VOC paradigm, to argue that South Africa’s post-apartheid experience reflects a corporatist “rent-sharing” arrangement between insiders and outsiders within business, labour and government constituencies (Bhorat et al. 2014, 2015; Mahajan 2014; Sharma 2014). Drawing on the markups literature traced above monopolistic rents, said to prevail universally across manufacturing sectors and in service sectors such as telecommunications, are shared as part of “an uneasy, but stable, political economy equilibrium ... defined by high margins, or rents, distributed between organized labour and big business” (Bhorat et al. 2014: 16) as well as politically connected individuals linked to the ruling party.

This cosy collusive arrangement benefits “insiders”: firms in high rent sectors, a “labour aristocracy” and politically connected individuals while locking out “outsiders” particularly small firms and the unemployed. Thus post-apartheid South Africa is characterised by an

‘insider-outsider’ model, in which GDP growth is constrained by the oligopoly power of the ruling party, of corporations that endure from the apartheid era and of the unions allied to the ruling party.

(Sharma 2014: 61)

Within or closely related to this narrative post-apartheid industrial policy is said to have exacerbated the “insider-outsider” problem with respect to labour markets in particular. This is because industrial policy has not been accompanied by a concurrent labour market deregulation and because industrial policy is said to have contributed to the displacement of labour by capital (Nattrass 2003; Nattrass and Seekings 2010; Kaplan 2015a, 2015b).

4.4 Conclusions

The dominant consensus that solidified over the early 1990s, of industrialisation having failed primarily due to market distortions and skills deficits, has proved extremely durable and has been extended into the post-apartheid period. This is notwithstanding fundamental conceptual and empirical weaknesses and a sustained attack on various distortions, most notably via extensive trade liberalisation.

Post-apartheid policy has been shaped in practice by the confluence of scholarship, ideology and interests with particular influence exerted by the large conglomerate groups amid the rising importance of institutional financial investors. The conglomerates adopted the ideological rhetoric of neoliberalism to justify policies as favourable as possible to their unfettered domestic and international

restructuring. They eschewed other possible sources of legitimation, such as an accommodation with labour to deepen industrialisation, in favour of legitimation through initiating the mechanism of narrow Black Economic Empowerment asset transfers.

Post-apartheid economic policy and mainstream scholarship have co-evolved with both being compelled to relax more restrictive elements and assumptions in the face of disappointing economic performance, mounting frustration over the direction of policy, and developments in mainstream economics itself. Notwithstanding some adaptation to take on board market imperfections and a belated recognition of the importance of institutions over the post-apartheid period, orthodox scholarship has advanced a misleading understanding of both apartheid and post-apartheid industrialisation, serving *ex ante* to inform and *ex post* to validate orthodox elements in economic policy.

Chapters 5 to 8 examine in detail how orthodox reforms and the entrenchment in policy and practice of particular forms of BEE, have acted upon corporate and industrial restructuring in the steel and engineering sectors. Orthodox scholarship tends to convey this process of economic restructuring at a high level of abstraction as the recombination of atomised factors of production through shifts in relative prices. By contrast the detailed analysis of post-apartheid corporate and industrial restructuring, in steel and engineering in particular, reflects how particular interests and ideas have bolstered policies and institutions that have influenced corporate strategic orientation in a way that has discouraged the deepening of firm capabilities to deepen and diversify their manufacturing interests.

Chapter Five

Post-apartheid institutions of industrial restructuring and industrial performance

In his 1997 national budget speech Minister of Finance Trevor Manuel set out the following vision for the future of the South African economy:

The GEAR strategy is an economic reform programme directed towards a competitive fast growing economy which creates sufficient jobs for all jobseekers ... At the centre of the GEAR strategy is investment and job creation ... Evidence is emerging that structural changes are well underway in the non-agricultural sectors of the economy and in the manufacturing sector in particular, reflecting the changes that the GEAR is designed to sustain. Overall, investment will in due course lead to stronger employment creation ... We are on track for an acceleration in growth and job creation.

(Department of Finance 1997)

South Africa's uneasy post-apartheid bargains, heavily influenced by the agency of the large conglomerates, shaped a range of policies and institutions that have in turn conditioned corporate and industrial restructuring, within the context of major shifts in the global economy. This chapter reflects how these policies and institutions have influenced corporate and industrial restructuring in a manner which has discouraged higher fixed investment, particularly in "diversified" or "non-commodity" manufacturing sectors outside of heavy industry, such as engineering, and eroded the capital based in the scale-intensive steel sector itself.

Section 5.1 briefly establishes the international context for post-apartheid corporate and industrial restructuring, emphasising global processes of liberalisation and deregulation that have given rise to a shareholder value movement and a “Global Big Business Revolution” involving intense consolidation of a wide range of sectors under the control of a handful of very large transnational firms. Section 5.2 illustrates how the confluence of orthodox policies and the deepening of Anglo-American style capital market institutions have facilitated the outflow of long-term investable capital and replaced it with a reliance on volatile short-term inflows. Rapid financial sector growth and the flow of large-scale rents to institutional investors has ensued without a corresponding increase in savings and fixed investment. Growth in fixed capital formation in manufacturing sectors outside of heavy industry, such as engineering, has been particularly limited. Section 5.3 reflects how Black Economic Empowerment (BEE) has transformed over the post-apartheid period from a tactical conglomerate legitimisation mechanism to a fundamental part of post-apartheid policy and practice involving substantial transfers of rents with little demonstrable positive effect on fixed investment in general and manufacturing in particular. More recently the rhetoric of advancing BEE has been associated with an apparent shift to a particularly predatory form of rent-seeking. Section 5.4 demonstrates how extensive trade liberalisation has placed intense pressure on sectors such as engineering. Conversely neither trade liberalisation nor heavily contested competition policy have meaningfully addressed the long-standing constraint of monopolistic steel pricing. Considerable continuity is reflected by the relatively low proportion of financing extended by the Industrial Development Corporation (IDC) to manufacturing sectors outside of heavy industry, such as engineering. Finally this section interrogates whether alleged labour market inflexibility is the primarily cause of weak manufacturing

performance and high unemployment, as frequently claimed. Section 5.5 concisely reviews post-apartheid industrial performance with a particular focus on the steel and engineering sectors. It reflects that, notwithstanding some positive elements, engineering performance has been disappointing and indicative of a number of weaknesses and lost opportunities, while foreign ownership in steel has been associated with mounting inefficiencies. Section 5.6 concludes that South Africa's uneasy post-apartheid bargains have given rise to a set of institutional arrangements which have militated against the development of sectors outside of heavy industry such as engineering, including the monopolistic pricing of intermediate inputs such as steel, while the uncritical embrace of foreign ownership in steel has led to underinvestment and a crisis in the steel sector following the onset of the global financial meltdown.

5.1 Key global forces

South Africa's transition from apartheid to democracy needs to be located within a broader set of shifts unfolding globally since the early 1980s. Rising financialisation, set in motion by deregulation of capital markets and liberalisation of capital flows had been reshaping the global financial landscape since the early 1980s with an exponential proliferation in the scale of financial assets (Epstein 2006; Fine 2009c; Palma 2009). Palma (2009) estimates that the face value of global financial assets grew from 1.2 to 4.4 times global GDP between 1980 and 2007. The rising scale of financial assets has been associated with a "shareholder value revolution" involving a fundamental shift in the relationship between institutional investors and investee firms. This represented a shift from a "patient" post-war form of capital willing to invest in long term fixed capital, innovation and human resource development, to

increasingly “impatient” capital from the 1980s onwards predicated on maximising shareholder returns as rapidly as possible (Porter 1992; Lazonick and O’Sullivan 2000; Epstein 2006). Even as mainstream management guru Michael Porter (1992) highlighted the detrimental impact of this shift on long-term investment and innovation on US economy, in contrast to the long term financing arrangements in Japan and Germany, the “shareholder value revolution” was rapidly spilling over to developing economies (Singh et al. 2005; Mohamed and Roberts 2008).

The shareholder value movement has played a significant role in contributing to a process of international corporate restructuring described as a “Global Big Business Revolution” (GBBR) (Nolan et al. 2002, 2008). As large corporations have been pressured by institutional shareholders to focus on “core” sectoral activities and dispose of “non-core” activities, there has been a process of rapid global consolidation of sectors and associated production chains through a slew of mergers and acquisitions (M&As) with most sectors now dominated by a handful of large transnational corporations headquartered in high income countries. The explosion of abundant finance arising from rapidly growing financial markets has provided ample funding for this wave of M&As (Nolan 2001; Nolan et al. 2002, 2008). The global commodity boom of 2001 to 2008 fuelled this process in sectors such as iron ore and steel. The GBBR has given rise to new forms of private “industrial planning” which extend far beyond the boundaries of legal ownership of the firm. Lead firms in each value chain “exercise tight control over firms across the whole value chain, both upstream and downstream” (Nolan et al. 2002: 92). Thus the scope of the large transnational firm is therefore not confined to narrow boundaries of legal ownership but “by the sphere over which conscious coordination of resource allocation takes place” with influence extending to a much larger “external firm”

(Nolan et al. 2002: 101). This process of global consolidation contrasts sharply with the predictions of orthodox neoclassical economic theory that reduced government regulation of trade and capital flows should lead to a closer approximation of perfectly competitive markets. It also has profound implications for developing country subsidiaries, rendering them subject to the strategy and position within the division of labour established by the global parent.

As elaborated in this Chapter and the three that follow the increasing sway of the financial sector, and global processes of consolidation in industries that include iron ore, steel and engineering have strongly influenced the restructuring of large South African business groups.

5.2 Washington consensus policies and Anglo-American capital market institutions

5.2.1 Orthodox macroeconomic policies and financial flows

A major thrust of GEAR, and reflective of the single most emphatic demand of the large conglomerate groups, was extensive capital account liberalisation. The need for capital account liberalisation was predicated on attracting capital inflows to finance the gap between domestic savings and investment and that capital controls, irrespective of the form they took, inhibited foreign direct investment. Restrictions were sequentially lifted, limits raised on corporate offshore investment and remittance of profits and individual portfolio investments. Permission was granted for a number of South Africa's largest conglomerate groups to move offshore. Firms that have shifted their primary listings offshore include Billiton (mining and mineral processing), South African Breweries (beer), Anglo American Corporation (mining),

Old Mutual Life Assurance and Investec (financial services), and Dimension Data (information technology). These conglomerates argued that offshore listings would *inter alia* allow them to raise capital more cheaply on international capital markets in order to reinvest in South Africa. According to the Reserve Bank offshore listings would “promote foreign investment in South Africa ... [and create] ... the opportunity to improve South Africa’s profile internationally” (Walters and Prinsloo 2002: 61). However, rather than resulting in conglomerates raising capital to increase investment in South Africa they have used these offshore listings as a springboard for acquisition and expansion elsewhere (Chabane et al. 2006).

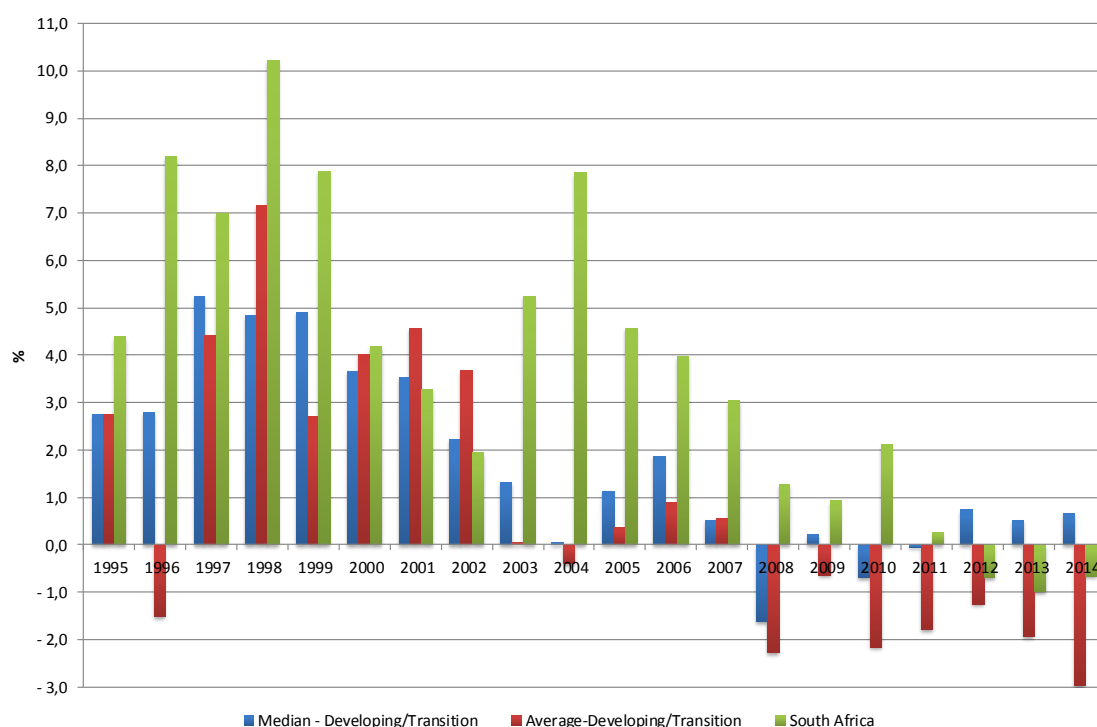
Substantial long-term capital has been removed from South Africa via offshore listings of large conglomerates, acquisition of South African firms by foreign owners and the subsequent stream of dividend outflows.²⁴ As demonstrated in Chapter 7, outflows associated with foreign ownership in the steel sector substantially exceeded inflows. Ashman et al. (2011) argue that the post-apartheid period has witnessed widespread capital flight, both legal and illegal averaging 12% of GDP between 2001 and 2007. They associate much of this capital flight with transfer pricing, particularly trade mis-invoicing related to minerals and metals exports. Outflows of long-term potentially investable capital have in turn been replaced by large-scale and volatile short-term inflows into the stock exchange, bond and money markets.

Reflective of the growing orthodox orientation of senior ANC economic policy officials, the ANC’s first major macroeconomic policy decision as government-in-

²⁴ 37% of South Africa’s sustained current account deficit between 2004 and 2013 was due to “net FDI income” payments abroad, compared to the 26% contribution of the trade deficit (Strauss 2017).

waiting was to agree to entrench central bank “independence” in the post-apartheid constitution, with the primary objective of the Reserve Bank to “protect the value of the currency” (Republic of South Africa 1996: 224(1)). Tight monetary policy has prevailed over much of the post-apartheid period, anchored since 2000 in a formal inflation-targeting framework, targeting a band of between 3 and 6%, with real short-term interest rates significantly above the developing country median prevailing for most of this period (Figure 5.1).

Figure 5.1: Short term real interest rates: South Africa versus peer middle-income developing countries (%), 1995-2014



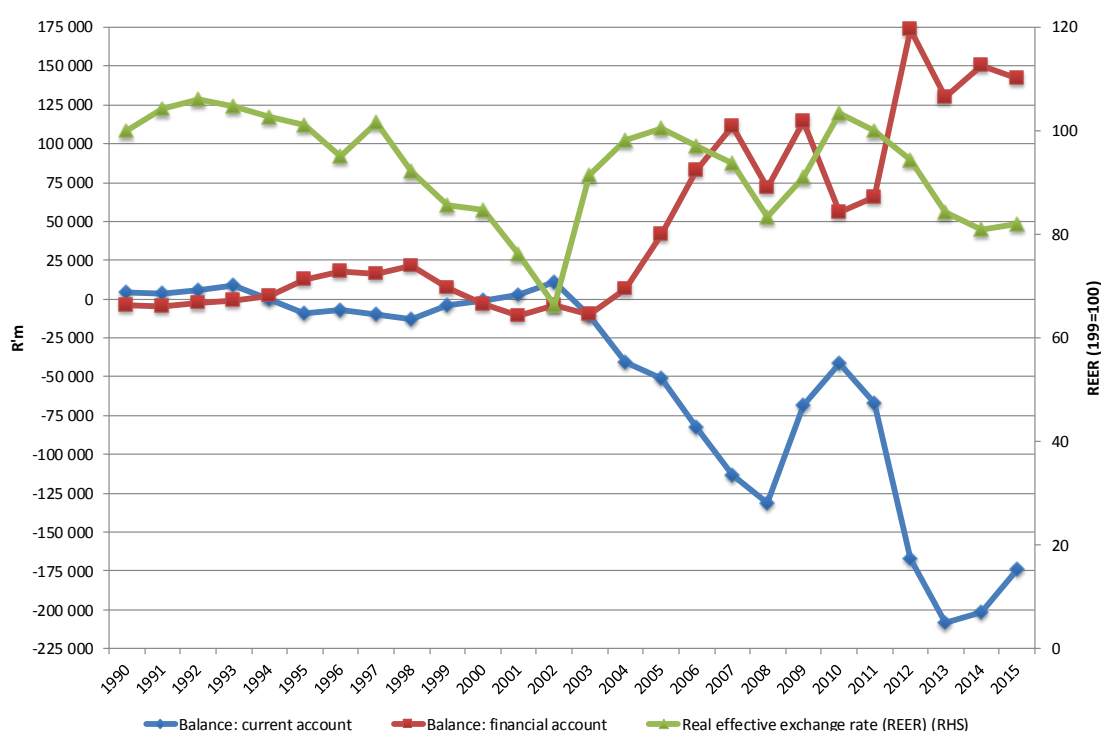
Source: Author’s calculations based on Economist Intelligence Unit, (2016).

Note: Developing country comparators: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hong Kong, Hungary, India, Indonesia, Malaysia, Mexico, Pakistan, Poland, Russia, Saudi Arabia, Singapore, South Korea, Taiwan, Thailand, Turkey, Venezuela

South African Reserve Bank researchers have conceded that the openness and scale of South African stock and bond markets render the economy vulnerable to volatility and instability. The currency “is a common speculative target” with around 65% of transactions attributable to offshore trade (Hassan 2013: 2). The rapid appreciation

of the currency from 2001 and sustained overvaluation until well into the global financial crisis coincided with the global metal and mineral commodity boom, notwithstanding the mediocre performance of South African real mining and primary metals production and exports in volume terms. Overvaluation and volatility has had a strong negative impact on non-commodity manufacturing sectors (Rodrik 2008; Zalk 2012, 2014a) (Figure 5.2). By contrast mining and commodity manufacturing enjoys an inbuilt hedge against currency appreciation due to rising international dollar prices for their output.

Figure 5.2: Balance on current and financial account (Rm), and real effective exchange rate (1990=100), 1990-2015



Source: Author's calculations based on South African Reserve Bank Quarterly Bulletin (South African Reserve Bank n.d.)

Influenced by the assumption that public expenditure crowds out private investment tight monetary policy was accompanied by relatively tight fiscal policy until the onset of the global financial crisis. However, more significant than the specific level of the fiscal deficit has been the general discouragement of public

investment that prevailed over much of the first decade of democracy, either on-budget or by state-owned-enterprises. The de-emphasis of public fixed investment over the first decade of democracy and the failure of the Reconstruction and Development Programme to materialise manifested itself in the form of weak steel and engineering demand compounded by the lack of meaningful strategies to reorient and develop capabilities that had been built up over the apartheid period, particularly from a heavy to light engineering orientation and towards the development of export markets.

GEAR's faith in future foreign direct investment (FDI) inflows have not been quantitatively or qualitatively met over the post-apartheid period. Net FDI inflows have averaged 1.32% of GDP between 1994 and 2015 (World Bank, n.d.) and have largely been in the form of acquisition rather than net new investment. Former state owned enterprises (such as Telkom, Iscor and South African Airways) have been major objects of FDI, as has entry into the banking and mining sectors, albeit with some reversals (Chabane et al. 2006). As elaborated in Chapter 7 foreign ownership in the steel sector has not generally been associated with *any* of the predicated benefits of FDI: net fixed investment, technology transfers and operational efficiencies.

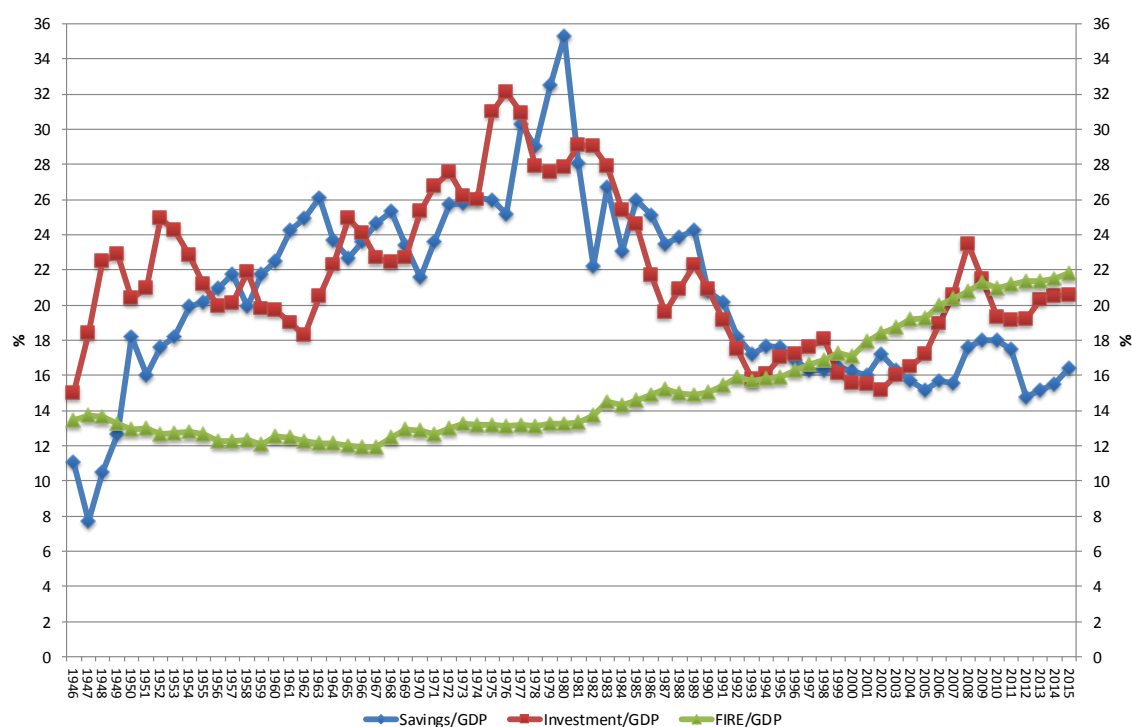
5.2.2 Financial deregulation, “financial deepening” and “good corporate governance”

In parallel with the reshaping of macroeconomic policy, the financial sector had been extensively liberalised over the 1980s in line with the recommendations of the De Kock Commission, which emphasised the conduct of both monetary policy and

the financial system as far as possible through unmediated market mechanisms. The removal of any distinction between deposit-taking institutions led to the demutualisation of building societies and their takeover by large commercial banks (Isaacs 2014; Ashman and Fine 2013). The “prescribed asset” system which required every pension fund to place a prescribed minimum of its total investments in both government bonds and various public assets was revoked in 1989 (Pollin et al. 2006). GEAR paid virtually no attention to financial sector policy other than asserting that implementation of its policy framework would lead to greater financial stability and assumed that the financial sector would operate efficiently to aggregate and channel savings into higher levels and more diversified fixed investment in export oriented manufacturing sectors.

These reforms have unleashed rapid post-apartheid growth of the financial sector and its constituent institutions. Capital account liberalisation has been accompanied by large short-term capital inflows by a range of institutional investors across a range of financial markets, assets and instruments. A particular focus in subsequent chapters is on the role of equity investors who have propelled the Johannesburg Stock Exchange (JSE) into the second largest in the world relative to GDP, with a stock market capitalisation to GDP ratio of 257% in 2014 (World Bank n.d.-a). While equity investors may have differing time horizons, that range from short to medium term, they have the common characteristic of being able to rapidly withdraw their capital. Similarly, the currency, bond and derivatives markets have each grown to amongst the twenty largest in the world (Hassan 2013). However, rapid growth of the financial sector and associated assets has taken place without any significant associated improvements in South African savings and investment rates (Figure 5.3.).

Figure 5.3: Ratios of savings and fixed investment to GDP, and FIRE sector size relative to GDP (%), 1970-2015



Source: Author's calculations based on South African Reserve Bank Quarterly Bulletin (South African Reserve Bank n.d.)

These developments have led to major changes to the composition of the JSE. Two in particular stand out in Table 5.1. First, the massive decline in Anglo's share of the JSE, from 43.3% in 1994 to 5.5% in 2014. In Second the large rise in share of institutional investors, both domestic and foreign whose collective share rose from 3.1% in 1994 to 54.6% in 2014. The rising influence of institutional investors has taken place hand-in-hand with a corporate governance regime that emphasise "enlightened shareholder value" with an emphasis on maximising shareholder value but with strong provisions for advancing BEE ownership transfer and managerial representation (Malherbe and Segal 2001; Padayachee 2013).

Table 5.1: Summary of JSE Market Capitalisation Control (%), 1993–2014

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2009	2010	2011	2012	2013	2014
FOREIGN	2.4	2.2	4.1	4.1	4	3.9	4	3.9	3.6	10.1	17.9	18.5	14.2	20.8	20.7	33.1	27.9	29.8	30	33.2	30.9
INSTITUTIONS	6.0	0.9	1.7	0.8	0.8	4.2	9.2	6.7	6.3	9.1	11.2	10.3	13.7	9.1	12.6	14.4	17.6	17	19.4	22.1	23.7
DIRECTORS	5.6	7	11.4	10	10.6	14.4	11.4	8.9	9.2	7.4	6.1	5.8	8.2	6.7	9.4	7.7	8.3	8.9	9.2	7.0	7.1
SABMILLER								2.8	3.1	4.0	3.5	5.1	4.9	5.7	5.5	5.9	6.5	7.5	9.2	9.1	9.4
ANGLO AMERICAN CORP	38.2	43.3	37.1	27.5	22.6	17.4	22.3	23.6	27.3	20.2	22.3	18.7	17.3	21.0	20.8	10.6	13.0	11.8	8.9	6.8	5.5
REMBRANDT	15.5	13.0	7.8	10.6	9.9	9.0	10.4	11.0	9.6	10.0	8.1	7.9	7.8	7.8	6.7	3.8	5.1	5.2	7.2	9.1	9.3
BLACK GROUPS				6.3	9.3	9.6	4.7	5.7	5.3	3.5	4.7	6.3	5.8	5.1	5.5	7.0	5.4	4.6	3.9	1.5	1.3
RMB/FIRSTRAND		0.5	1.0	1.7	1.8	4.8	3.6	2.9	3.8	4.7	4.4	4.9	5.0	3.9	3.1	2.5	2.8	3.1	3.9	2.3	3.0
S A MUTUAL	10.7	9.7	11.2	10.2	11.4	8.8	10.7	11.0	10.8	12.0	6.9	4.5	4.5	5.5	4.0	2.8	2.8	2.9	3.3	2.8	2.7
SANLAM	12.0	10.5	12.7	11.4	11.0	11.1	12.0	13.2	10.0	6.3	3.8	2.7	1.6	2.3	1.2	1.2	1.2	1.2	1.4	1.4	1.7
LIBERTY LIFE/ STANDARD BANK	6.2	7.2	7.3	11.1	11.9	9.5	4.9	5.2	5.3	6.0	4.3	4.7	4.3	3.5	3.4	4.3	3.9	2.4	1.1	2.5	2.5
BIDVEST GROUP						1.0	0.9	1.0	0.9	1.0	1.0	1.2	1.1	1.0	0.9	0.8	0.9	0.8	0.9	0.9	0.9
INVESTEC		0.4	0.9	1.1	2.4	3.3	2.6	1.9	2.4	1.9	0.7	0.8	1.0	1.2	0.9	0.8	0.8	0.6	0.7	0.7	0.9
PSG																			0.6	0.5	
STATE											1.5	2.2	2.5	2.0	1.8	1.5	0.3	0.2	0.1	0.1	0.3
ALTECH																		0.1	0.1	0.0	0.8
ABSA^												2.2	2.3								
SASOL*		1.7	1.9	2.1	2.8	2.2	2.6	2.2	2.4	3.8	3.7	4.2	5.9	4.6	3.5	4.6	3.5	3.9			
ANGLOVAAL+	3.4	3.6	2.9	3.0	1.5	0.8	0.7														
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: McGregor's Who Owns Whom, various years

Notes: Black controlled and director controlled companies are defined by an empowerment or directors' holding exceeding 26% with no other dominant shareholder. Once control has been allocated the full market cap of that company is used in the calculation for comparative purposes.

^ Moved to Foreign * Moved to Institutions + No Longer Operating

In 1999 the JSE introduced a mechanism for “unlocking shareholder value” additional to share price appreciation and dividends. that is provision for share buybacks, a mechanism already well established in the United States and the United Kingdom. Lazonick argues that share buybacks represent perverse incentives that reward investors for disinvesting their capital rather than purchasing and holding shares over a sustained period to finance potentially productive investment (Lazonick 2014). Wesson (2015) provides a conservative estimate that over the decade 1999 to 2009 at least R248bn in dividends and R137bn in share buybacks, totalling a minimum of R384bn was returned to JSE investors JSE. This is a considerable underestimate of the total returns flowing to investors from dividends and share buybacks over the period. First Wesson’s study excludes firms categorized under two of the largest JSE indices, Basic Materials and, critically, Financials.²⁵ Second, it excludes dividend payments and share buybacks by companies historically linked to South Africa now listed on the LSE including Anglo American, British American Tobacco and Richemont. It also excludes pay-outs to investors in unlisted companies, such as in the rapidly growing private equity industry. As discussed in Chapter 6 both Anglo and Remgro have been amongst the largest users of the share buyback mechanism. The large magnitude of transfers to investors through dividends and share buybacks enumerated by Wesson, bearing in mind that they reflect a conservative estimate of total transfers, is evident when they are related to levels of fixed investment in the economy. The R384bn transferred to shareholders between 1999 and 2009 is equivalent to 17% of total gross fixed

²⁵ Wesson’s estimates of the stock of share buybacks over the decade 1999-2009, notwithstanding the exclusion of major JSE categories of shares, represents a major empirical effort. This is because the JSE does not require listed firms to report on share buybacks in a clear and transparent manner and required calculation from the annual financial statements of individual firms included in her study.

investment in the economy over the same period or 61% of fixed investment in manufacturing. Rather than contributing to fixed investment these flows have exceeded capital raised on the JSE over the same period. As conveyed by financial journalist Ann Crotty:

The splurge of buybacks questions the traditional role of stock exchanges, which has been to provide companies with funds to invest. Adding the repurchases to ... dividends paid out to shareholders ... suggests JSE- listed companies pump out more money to investors than they receive from them.

(Crotty 2015: 3)

Rather than introducing greater competition as assumed by De Kock, deregulation has led to the consolidation of banking by the “big four” commercial banks: Standard Bank, ABSA, FirstRand and Nedbank (Ashman and Fine 2013). Growth in private credit extension has not entailed a meaningful increase in funds extended to industry. Private sector credit has increasingly been advanced to households for consumption, hire purchase and mortgage credit with the ratio of household debt to income rising from 55% in 1994 to an unsustainable peak of 8686% in 200 and subsiding only slightly thereafter (South African Reserve Bank n.d.). A major reason cited for high levels of short-term credit extension is the reluctance of South African banks to advance long-term loans against short term sources of funds, largely deposits. This is in contrast to countries like Brazil and Germany whose development banks extend long term loan facilities through the private banking system for on-lending to their industrial sector (Letsema Strategy Services 2010).

Short-term portfolio inflows have amplified short term credit extension to households through the financial system (Ashman et al. 2013a).

A further area of “financial deepening” has been the rapid growth, albeit from a low base, of a South African venture capital and private equity (henceforth private equity) industry targeting the purchase, restructuring and resale of existing firms within a period of five to seven years with returns in excess of alternative asset classes such as listed equities (Bhika 2014). Funds under management have risen from R39.3bn in 2003 to R171.1bn in 2014 (KPMG and SAVCA 2015). At the end of 2007 private equity funds under management were equivalent to 2.8% of GDP (Padayachee 2013). Manufacturing makes up a significant proportion of South African private equity holdings, comprising 24.8% of unrealised investments in 2014 (KPMG and SAVCA 2015). Private equity has played an important role in two respects relevant to this study. First, private equity firms and methods have played a prominent role in conglomerate unbundling of a range of engineering assets. Second, and overlappingly, private equity has been prominent in a number of BEE transactions with private equity techniques an important mechanism for building up leading BEE investment holding companies such as Kagiso Tiso Holdings (KTH). As discussed below the Public Investment Corporation (PIC), investor of public pension funds, has been the leading provider of capital to a growing South African private equity industry aimed primarily at building up black-owned financial firms.

Contrary to the predictions of GEAR, low inflation, fiscal deficits, and capital account liberalisation and the associated ushering in of Anglo-American capital market institutions have not been associated with significant improvements in gross fixed capital formation and savings levels. South African gross fixed capital formation as

a percentage of GDP has been weak in comparison with the peer middle-income comparators. This is despite the financial sector having exhibited the fastest growth of any sector over the post-apartheid period with its share in GDP rising from around 6% to 14% between 1990 and 2014 (South African Reserve Bank n.d.) Far from demonstrating rising levels of efficiency, there has been increasing inefficiency in the core function of the financial sector to mobilise savings and channel it into productive investment, with each Rand of savings and investment mobilised “requiring” an increasing share of finance in GDP. This is reflective of large-scale rents transferred from the real economy to the financial sector and institutional investors rather than being invested to raise private fixed investment and shift its patterns towards structural transformation of the economy, particularly manufacturing sectors outside of heavy industry.

5.3 The evolution of Black Economic Empowerment (BEE)

5.3.1 BEE: from tactical conglomerate legitimisation mechanism to cornerstone of economic policy

Over the post-apartheid period Black Economic Empowerment (BEE) has been fundamentally transformed from a tactical legitimisation mechanism initiated by the large conglomerates to a cornerstone of economic policy and practice. A “first phase” of conglomerate initiated transfers to consortia headed by individuals prominent in ANC circles, typically in the form of highly leveraged special purpose vehicles (SPVs) dependant on dividend flows for repayment of debt, quickly propelled black ownership from virtually nothing to 9.6% of JSE market capitalisation by 1998 (Table 5.1 above). However, the collapse of many of these deals with the onset of the 1998 Asian crisis and the narrowness of its beneficiaries prompted the creation of a

Black Economic Empowerment Commission in 2001 leading to the entrenchment of BEE in public policy, legislation and practice BEE has advanced most rapidly in sectors requiring government licencing and sectors in which procurement by government and state owned enterprises is a major source of demand (Iheduru 2004; Hirsch 2005; Chabane et al. 2006; Southall 2007; Tangri and Southall 2008; Cargill 2010). Criticism of the narrow base and political connectedness of early BEE beneficiaries and its overwhelming emphasis on ownership transfer led to the development by the DTI of Broad-Based Black Economic Empowerment legislation and associated Codes of Good Practice providing for firms to meet BEE targets through a combination of ownership and non-ownership elements (Tangri and Southall 2008; Cargill 2010). However, this broad based approach has been far from universally adopted by government departments and public entities. Mineral and liquid fuels licencing legislation and SOE procurement practices have overwhelmingly emphasised black ownership as their primary criterion.

The first piece of legislation advancing BEE was the Mineral and Petroleum Resources Development Act (MPRDA) (Government of South Africa 2002) and associated Mining Charter, which effectively clawed back existing mining rights to the state with the chief conditionality attached to the issue of “new order” mining rights dependent on achieving a minimum of 15% black shareholding by 2009 and 26% by 2014. Mining companies were also obliged to meet targets of at least 40% black management, targets for various categories of procurement from black empowered companies, and socio-economic plans related to employee housing and community development. The extent to which the Department of Mineral Resources (DMR) has monitored and enforced the socio-economic development obligations of

the Charter has been subjected to significant question (Ponte et al. 2007; Tangri and Southall 2008; Capps 2012).

Given the prominence BEE has occupied in economic policies there has been surprisingly little collection of official statistics enumerating the extent to which ownership and non-ownership elements of BEE have progressed (Acemoglu et al. 2007). There has been vigorous contestation over the extent to which ownership of assets has been transferred into black hands through BEE processes. As reflected in Table 5.1, ownership by black groups of the JSE, as estimated by McGregor's, remains low. Mirroring the fall in black ownership after the Asian financial crisis in 1998, black ownership fell from 7% in 2009 to 1.3% in 2014 after the onset of the global financial crisis. Other estimates place black ownership considerably higher: 10% direct black ownership in 2013 and 23% including ownership via pensions and other investment schemes (Old Mutual 2016). Irrespective of specific levels of JSE ownership a process of large-scale rent transfer has taken place relative to levels of fixed investment in the economy. One estimate places the "unencumbered", or debt-free, value of shares transferred to BEE recipients by the 100 largest companies listed on the JSE between 2000 and 2014 at R317bn. This figure represents the 34% of BEE deals that have been finalised over this period, with 64% of "live" BEE deals still due to "vest", that is to transfer sufficient cumulative dividends to BEE purchasers of shares to extinguish the debt raised to finance the purchase (Intellidex 2015). Similarly, to the large-scale transfers to shareholders via dividends and share buybacks, this figure is likely to substantially underestimate BEE asset and wealth transfers through other mechanisms, particularly procurement by government and SOEs. Although levels of black ownership on the JSE remain low the large-scale of these (conservatively estimated) transfers is evident when related to levels of fixed

investment in the economy. These transfers have been equivalent to 8% of total fixed investment in the economy and 29% of manufacturing investment respectively between 2000 and 2014. Similarly to financial flows to institutional investors, there is little to indicate that BEE transfers have contributed to the growth in gross fixed capital formation in general, or manufacturing in particular, as discussed in the next two sub-sections.

5.3.2 BEE and the role of public finance institutions

The two largest public financing institutions: the Public Investment Corporation (PIC) and the Industrial Development Corporation (IDC) together with the National Empowerment Fund (NEF) have placed significant emphasis on BEE, both providing and leveraging finance towards this end. The PIC invests the pension contributions of state employees to the Government Employee Pension Fund (GEPF) and other smaller public pension funds. It is the single largest institutional investor both in the South African economy and on the continent, with R1.8 trillion in assets under management. The PIC accounts for approximately 12.5% of the market capitalisation of the JSE, is the largest single investor in the Top 40 listed companies on the JSE, accounts for 28% of South Africa's bond market capitalisation, 25% of South African government bonds, and has the largest single exposure to SOE bonds. Outside of equities and bonds, the PIC's single largest area of asset allocation has been in property, accounting for 11.3% of the JSE listed property index and a very large exposure to unlisted properties comprising R94.1bn or 5.19% of its assets in 2015. It also has large offshore holdings and a significant and growing exposure to investments on the rest of the continent. The PIC states that it seeks to balance its pension fund mandate with socio-economic objectives with the latter involving an

overwhelming emphasis on prising open the upper echelons of ownership and management for black participation, particularly in the financial and property sectors (Public Investment Corporation n.d.).

5.3.3 BEE and industrialisation

South Africa's BEE policy is predicated on a combination of redressing historic discrimination, ensuring social and political stability in which development can take place and promoting accumulation by emerging black capitalists (Republic of South Africa 2003). From the perspective of cumulative causation theory, which assigns a central role to capital accumulation in manufacturing, the emergence of black industrial capitalists, essential to raise growth and employment in South Africa, have not until recently been emphasised.

Reflecting the two major policy levers driving BEE, ownership transfers on the JSE between 2000 and 2014 have occurred most rapidly in sectors reliant on state licencing and public procurement. In absolute terms, the largest transfers of wealth to black ownership have been in firms forming part of the mining (R101bn), banking and financial (R89bn), "industrials" (R57bn) telecommunications (R17bn) and healthcare (R14bn) groupings of the JSE (Intellidex 2015). From the perspective of industrialisation, companies included in the "Industrial" indices of the JSE are largely a misnomer. They overwhelmingly include non-manufacturing companies such as retailers and logistics firms or companies that have a low contribution of manufacturing to overall revenues and profits (Zalk 2014a).

BEE ownership transfer has proceeded very slowly in the manufacturing sector. This appears to a significant degree to be because of the low and declining profitability of the sector in aggregate and hence the limited attractiveness for BEE investors on the one hand, nor the scale of rents necessary to effect such transfer on the other. As illustrated in Chapters 6 and 7 the unbundling of Iscor's steel operations was not accompanied by requirements to introduce BEE nor demands from prospective BEE investors for such participation. In what were then relatively low profitability steel assets. This stands in contrast to intense contestation over lucrative iron ore mining rights, as reflected in Section 7.4, as iron ore in the context a boom in iron ore prices over much of the 2000s. Opportunities for emerging BEE groups to take deeper stakes in manufacturing, including the potential to achieve majority black ownership, have been eschewed in favour of often much smaller stakes in large mining and financial sector transactions, as reflected for instance in the case of Shanduka's engagement with Scaw and Kagiso-Tiso's approach to manufacturing.

Licencing and public procurement regulations and *de facto* practice have been inimical to domestic manufacturing and have perversely favoured foreign OEMs over domestic manufacturers. The Mining Charter places a requirement on mining companies not only to have in excess of 25% of black ownership, but to cascade this requirement down to their own suppliers. Thus the Mining Charter (Republic of South Africa 2002) set targets for procurement from black empowered companies for 2014 as follows: capital goods: 40%; services: 70%; consumables: 50% (with multinational suppliers of capital goods also to contribute 0.5% of sales into a social development fund). SOEs have similarly placed overwhelming emphasis on BEE ownership objectives. These arrangements perversely favour foreign OEMs over

domestic manufacturers. Since there has been little consideration of local content in mining policy, nor until recently in relation to SOE procurement practices it has become attractive and relatively easy for a foreign OEM to open up an “empowered” sales office in South Africa and gain an advantage over a “non-empowered” South African manufacturer.

Recently the DTI has sought to respond to the low levels of black participation in the manufacturing sector through the introduction of a “Black industrialist” programme that has sought to promote black ownership and active management in the sector (Department of Trade and Industry 2015). IDC has followed suite, announcing an allocation of R23bn to support black industrialists. However, there has been significant contestation over what constitutes a black “industrialist” with a strong push in some quarters to include intermediation activities with little value-added and sometimes overwhelmingly embodying imports. For example, state-owned South African Airways has committed to channelling half of its approximately R20bn annual procurement spend towards “black industrialists” which in practice predominantly involves the insertion of intermediaries in the procurement of imported jet fuel (Creamer 2015).

A more recent shift within parts of the ANC and the state from the rhetoric of a “Developmental State” to that of using state institutions to promote a new phase of accelerated asset transfers to black ownership through named “Radical Economic Transformation” has been associated by various analysts with a shift to a new form of predatory accumulation and patronage (Friedman 2016, 2017; Bhorat et al. 2017). This phenomenon is said to be centred around an expatriate Indian business family, the Guptas, with controversial links to President Zuma, his family and

associates who have “captured” contracts and licences awarded by various government departments and state-owned enterprises (Public Protector 2016; Bhorat et al. 2017). “Political cover” for this process is said to be secured through the flow of rents to “rural barons”, that is Premiers of provinces with large rural populations, with these rents used in part to secure support within political and bureaucratic structures of the provinces (Friedman 2016, 2017; Bhorat et al. 2017). This phenomenon has coincided with substantial difficulty experienced by the DTI in compelling SOEs such as Transnet and Prasa to give effect to localisation requirements. These obligations are embodied in the designation of a range of rail rolling stock and associated components to be manufactured domestically at or above specified levels of local content, as part of a broader strategy to revive the rail-related manufacturing and export competitiveness (Crompton et al. 2017). Recent e-mail leaks allege that the Gupta family struck a “facilitation” fee for approximately 10% of the value of the single largest rail contract, between Transnet and China South Rail (amaBhungane and Scorpio 2017).

5.4 Trade, industrial and competition policy

5.4.1 Trade liberalisation

In anticipation of reintegration into international institutions upon the reaching a political settlement between the state and the ANC, the late-apartheid government tabled a minimalist offer in 1990 to participate in the Uruguay round of trade negotiations of the General Agreement on Trade and Tariffs (GATT), the predecessor to the World Trade Organisation (WTO), committing South African to no more than binding, or placing a ceiling on, 55% of its industrial tariffs. However, in 1993, under

the stewardship of Derek Keys, South Africa submitted a fundamentally revised offer.²⁶ This revised offer committed South Africa to a unilateral and unreciprocated 33% average reduction across all its industrial tariffs with some exceptions for the clothing and textiles and automotive industries, and a 21% cut in agricultural tariffs (Hirsch 2005).²⁷

As part of its membership of the World Trade Organisation (WTO) South Africa went further, unilaterally lowering its tariffs beyond what was required in terms of its 1993 WTO commitments. As reflected in Table 5.2 the average industrial tariff was cut from 28% in 1990 to 23% in 1994 and to 8.2% by 2004, a reduction of 64% over the latter period (Edwards 2005). The engineering sectors, not particularly protected by 1994, experienced further deep relative cuts between 1994 and 2004: 58% in Metal products (from 18.5 to 7.8%), 68% in Machinery and equipment (from 10.5 to 3.4%) and 93% in Transport equipment (from 12.3 to 0.8%). The average tariff on Basic iron and steel fell by 57% (from 9.0 to 3.9%). The effects of these cuts were thus felt in the engineering sector and smaller steel producers, particularly in the castings and foundry subsector. Conversely, as discussed in Section 5.4.4 below trade liberalisation has had a limited impact on large integrated carbon steel producers Iscor, Highveld and stainless steel producer Acerinox (previously Columbus) due to “natural” protection arising from the high logistics costs of imported steel.

²⁶ By 1992 Keys was Minister of both Economic Co-ordination and Trade and Industry, and effectively responsible for the Finance portfolio.

²⁷ As part of this process quantitative restrictions were converted to tariffs in 1994, import surcharges were phased out by 1995 and a crudely constructed export subsidy (the General Export Incentive Scheme (GEIS)) was scaled down and terminated by 1997 (Edwards 2005)

From around 2006 and informed by the introduction of a national industrial policy framework and plans, discussed in Section 5.4.3 below, tariffs were to be used strategically, informed by sector development strategies with an emphasis on promoting downstream value-adding and more labour-intensive sectors. A particular area where tariffs were in fact lowered was on intermediate input sectors engaged in the practice of import parity pricing including primary carbon and stainless steel, aluminium and chemical products. The coherence and effectiveness of the revival of tariff policy as an instrument of industrial policy has been, at least in part, undermined by its institutional fragmentation and limited evidence of reciprocity required from industrialists in exchange for tariff protection (Tregenna and Kwaramba 2014).

Table 5.2: Scheduled tariffs and collection rates (%), 1994 versus 2004 and 2003 respectively

Sectors [SIC classification]	Scheduled tariff 1994	Scheduled tariff 2004	% tariff reduction	Collection rates 1994	Collection rates 2003	% reduction in collection rate
Total	22,3	7,9	-65%	13,6	6,1	-55%
Agriculture, forestry & fishing [1]	9,0	3,3	-63%	7,6	3,6	-53%
Mining [2]	2,8	0,8	-71%	1,6	0,4	-75%
Coal mining [21]	0,0	0,0	-	0,0	0,0	-
Gold & uranium [23]	10,0	0,0	-100%	0,0	0,0	-
Other mining [22/24/25/29]	2,9	0,9	-69%	1,7	0,4	-76%
Manufacturing [3]	22,9	8,2	-64%	13,9	6,3	-55%
Food [301-304]	22,8	11,2	-51%	18,2	10,6	-42%
Beverages [305]	36,4	12,3	-66%	49,4	30,9	-37%
Tobacco [306]	46,1	29,7	-36%	38,4	26,5	-31%
Textiles [311-312]	41,2	16,5	-60%	19,3	12,5	-35%
Wearing apparel [313-315]	75,1	31,0	-59%	32,7	18,2	-44%
Leather & leather products [316]	25,9	11,4	-56%	22,7	11,4	-50%
Footwear [317]	47,9	22,4	-53%	48,6	28,6	-41%
Wood & wood products [321-322]	14,8	8,7	-41%	14,0	7,9	-44%
Paper & paper products [323]	11,4	6,5	-43%	9,9	5,7	-42%
Printing & publishing [324-326]	16,1	4,7	-71%	14,0	4,6	-67%
Coke & refined petroleum [331-333]	12,6	3,4	-73%	3,6	3,4	-6%
Basic chemicals [334]	8,3	1,7	-80%	5,9	1,2	-80%
Other chemicals [335-336]	16,4	4,3	-74%	11,8	3,2	-73%
Rubber products [337]	19,0	10,6	-44%	16,8	10,8	-36%
Plastic products [338]	19,9	9,6	-52%	19,4	11,4	-41%
Glass & glass products [341]	17,2	7,3	-58%	16,2	6,3	-61%
Non-metallic minerals [342]	15,5	5,6	-64%	13,2	4,8	-64%
Basic iron & steel [351]	9,0	3,9	-57%	5,4	3,1	-43%
Basic non-ferrous metals [352]	8,8	2,0	-77%	4,3	1,6	-63%
Metal products [353-355]	18,5	7,8	-58%	15,2	6,6	-57%
Machinery & equipment [356-359]	10,5	3,4	-68%	7,0	1,8	-74%
Electrical machinery [361-366]	18,5	7,2	-61%	14,1	5,6	-60%
Communication equipment [371-373]	24,1	2,7	-89%	16,3	1,5	-91%
Professional & scientific [374-376]	12,4	0,3	-98%	11,2	0,2	-98%
Motor vehicles [381-383]	26,1	14,6	-44%	10,1	7,2	-29%
Other transport equipment [384-387]	12,3	0,8	-93%	9,9	1,1	-89%
Furniture [391]	32,2	17,4	-46%	28,6	16,6	-42%
Other manufacturing [392-393]	26,9	5,8	-78%	24,8	5,2	-79%

Source: Author's calculations based on Edwards (2005)

Note: Scheduled and collection rates are inclusive of surcharges.

5.4.2 The role of the Industrial Development Corporation

As discussed in Chapter 3, the Industrial Development Corporation (IDC) established itself as the leading *de facto* voice on trade and industrial policy (which it treated as interchangeable) over the transition and key proponent of trade liberalisation. The implementation of sweeping trade liberalisation described above took place for the most part in the absence of industrial strategies for the restructuring of manufacturing industries, with the most notable exception being the automotive sector. However, in stark contrast to the rhetoric of the need for undistorted market-determined outcomes, large-scale *de facto* public support was directed towards private conglomerate resource-processing mega-project expansions over the 1990s, including privatised Iscor and Sasol. This support comprised a mix of IDC funding, the generous “37E” tax allowance (a reference to the relevant section of the Income Tax Act), cheap long-term electricity supply arrangements from Eskom and disproportionate benefits from the clumsily designed General Export Incentive Scheme (GEIS)).²⁸ Capital-intensive mega-project expansions supported by one or more of these mechanisms and generally involving IDC financing included:

- The Columbus Stainless Steel project (a joint venture between Gencor, Anglo and the IDC)
- Construction of a new integrated carbon steel plant at the port of Saldanha (a joint venture between recently privatised Iscor and the IDC) and the co-

²⁸ Section 37E of the Income Tax Act operated between 1991 and 1999 and introduced a tradable tax allowance (in the form of “negotiable tax credit certificates”) for capital-intensive processing of a raw material or intermediate product which could either be deferred against future taxation when the lumpy capital intensive investments came on stream or “monetised” upfront by selling it (at a discount) to another entity against which the latter could offset its current tax obligations (Hanival and Rustomjee 2008).

located Duferco Steel Processing (DSP) steel mill to convert much of Saldanha's output into cold-rolled steel (a joint venture between Swiss Duferco and the IDC)

- The Alusaf aluminium smelting project (with Gencor and IDC as major investors) and associated Hulett Aluminium project (with Anglo American and IDC as major shareholders)
- The Mozal aluminium smelting project in Maputo, Mozambique (involving Billiton (Gencor's successor), Mitsubishi and the IDC),
- The Namakwa Sands Titanium Slag (an Anglo subsidiary) and a Sasol expansion project were also both supported by the 37E tax incentive.

(Macroeconomic Research Group 1993)

From the early 1990s to the mid-2000s IDC funding reflected a combination of continuity with its historical patterns of support for capital-intensive resource-processing projects, and a shift to the increasing funding of BEE ownership transfer deals, a significant proportion of which were in mining. IDC financing for investments in the non-ferrous metals (largely aluminium) and basic iron and steel industries accounted for one quarter of total national manufacturing investment in these sectors between 1992 and 1997, with the IDC providing R14.1bn of the R25.4bn invested in these projects (Mondi and Roberts 2005). IDC's financing between 1994 and 2004 was concentrated on large-scale capital-intensive mineral-processing projects in the metals and chemicals sectors, which represented a large proportion of national fixed investment in these sectors. In chemicals IDC investment fluctuated between 5 and 15% of fixed investment in the sector, peaking at 20% in 1994. In metals it ranged between 10 and 45% over most of the period, peaking at over 50% in 1999 (Hanival and Rustonjee 2008). Driven by mounting

regulatory requirements to introduce a minimum of 25% black ownership across the liquid fuels, mining and telecommunications sectors, a small number of large BEE ownership transfer deals featured increasingly in IDC financing between 1995 and 2004, most prominently in mining, followed by the transport, storage and communication sectors (Mondi and Roberts 2005). The economic impact of this pattern was to reinforce apartheid patterns of investment in MEC sectors on the one hand, combined with financing for BEE ownership transfer deals (themselves concentrated in mining) involving little addition to fixed capital stock, and relative neglect of manufacturing outside of heavy industries (Mondi and Roberts 2005).

The introduction by the DTI of the National Industrial Policy Framework (NIPF) (Department of Trade and Industry 2007), various Industrial Policy Action Plans (IPAPs) (Department of Trade and Industry various years) and the Economic Development Department's New Growth Path (NGP) (Economic Development Department 2008) policy framework saw the IDC commit to shift its focus towards supporting more labour-intensive and value-adding manufacturing sectors.

However, there has been little discernible shift away from the IDC's historical focus on capital intensive investments, as shown in Table 5.3. Rather considerable continuity is evident in IDC's cumulative stock of funding of its historical support for large capital-intensive projects. At the end of 2015 45.9% of IDC's debt funding and 90% of its equity funding was advanced to a combination of mining, electricity and heavy industries.²⁹ By contrast 26.9% of debt and 2.7% of equity funding was

²⁹ IDC's exposure to electricity reflects its participation in funding renewable energy projects. Although this obviously departs from historical support for projects linked to coal-based electricity it does reflect continuity in the sense of support for large capital-intensive projects.

extended to manufacturing sectors outside of heavy industry (Industrial Development Corporation 2015). These patterns reflect the legacy of IDC's investment in the steel, aluminium, petro-chemicals and fertiliser industries over the apartheid period and well into the 1990s. The large exposure to mining and a range of service sectors are due to IDC's role in financing BEE share acquisitions as BEE ownership became the preeminent condition attached to state licenced sectors, from the mid-1990s onwards. Investment in electricity reflects the relative recent large-scale financing of IDC of renewable energy projects. Although IDC's funding in steel and related sectors appears low, accounting for 0.2% and 4.1% of debt and equity funding respectively, it is understated. First, Iscor's 2001 unbundling of its steel and mining operations, as discussed in Chapter 7, shifted the categorisation of iron ore and other minerals to mining. Second, IDC's investments in ferrochrome and manganese fall are categorised under mining rather than manufacturing. Funding committed to engineering stands at 8.1 and 1.4% of debt and equity respectively.

Table 5.3: IDC stock of loans, advances and investment securities by sector (Rm and %), 2015

Loans and advances			Investment securities		
Other mining	2 767	12,3%	Other chemicals and man-made fibres	22 093	38,5%
Electricity, gas and steam	2 616	11,7%	Other mining	13 227	23,1%
Catering and accommodation services	2 348	10,5%	Basic non-ferrous metals	9 001	15,7%
Communication	1 809	8,1%	Medical, dental and other health and veterinary services	2 356	4,1%
Agriculture, forestry and fishing	1 513	6,8%	Basic iron and steel	2 325	4,1%
Food	1 487	6,6%	Electricity, gas and steam	2 209	3,9%
Motor vehicles, parts and accessories	1 048	4,7%	Other community, social and personal services	1 641	2,9%
Other chemicals and man-made fibres	1 005	4,5%	Gold and uranium ore mining	907	1,6%
Metal products excluding machinery	827	3,7%	Other transport equipment	755	1,3%
Coal mining	583	2,6%	Basic chemicals	739	1,3%
Finance and insurance	560	2,5%	Furniture	377	0,7%
Transport and storage	544	2,4%	Non-metallic minerals	268	0,5%
Non-metallic minerals	470	2,1%	Other industries	228	0,4%
Machinery and equipment	439	2,0%	Other services	222	0,4%
Building construction	413	1,8%	Finance and insurance	203	0,4%
Wood and wood products	370	1,7%	Wood and wood products	122	0,2%
Electrical machinery	339	1,5%	Transport and storage	87	0,2%
Other community, social and personal services	331	1,5%	Coal mining	85	0,1%
Gold and uranium ore mining	329	1,5%	Motor vehicles, parts and accessories	84	0,1%
Water supply	327	1,5%	Agriculture, forestry and fishing	79	0,1%
Medical, dental and other health and veterinary services	315	1,4%	Professional and scientific equipment	61	0,1%
Furniture	295	1,3%	Metal products excluding machinery	54	0,1%
Wearing apparel	292	1,3%	Building construction	48	0,1%
Textiles	256	1,1%	Food	42	0,1%
Plastic products	190	0,8%	Business services	39	0,1%
Other transport equipment	134	0,6%	Catering and accommodation services	37	0,1%
Basic chemicals	118	0,5%	Electrical machinery	35	0,1%
Business services	110	0,5%	Paper and paper products	18	0,0%
Glass and glass products	110	0,5%	Communication	7	0,0%
Footwear	77	0,3%	Television, radio and communication equipment	1	0,0%
Wholesale and retail trade	75	0,3%	Textiles	1	0,0%
Professional and scientific equipment	70	0,3%	Beverages	-	-
Other industries	56	0,2%	Coke and refined petroleum products	-	-
Basic iron and steel	39	0,2%	Footwear	-	-
Paper and paper products	33	0,1%	Glass and glass products	-	-
Printing, publishing and recorded media	28	0,1%	Government	-	-
Leather & leather products	18	0,1%	Leather & leather products	-	-
Basic non-ferrous metals	17	0,1%	Machinery and equipment	-	-
Television, radio and communication equipment	17	0,1%	Plastic products	-	-
Government	15	0,1%	Printing, publishing and recorded media	-	-
Beverages	13	0,1%	Rubber products	-	-
Coke and refined petroleum products	5	0,0%	Water supply	-	-
Rubber products	4	0,0%	Wearing apparel	-	-
Other services	-	-	Wholesale and retail trade	-	-
22 412	100,0%		57 351	100,0%	

Source: Author's calculations based on Industrial Development Corporation (2015)

5.4.3 The late arrival of industrial policy

In parallel with large-scale de facto industrial policy intervention in favour of capital-intensive resource-processing expansions, de-emphasised in the official articulation of industrial policy, immediate post-apartheid industrial policy more prominently emphasised a less well-resourced set of “supply side measures” with the objective of assisting small- and medium- size enterprises (SMEs) to adjust to rapid trade liberalisation, and reflecting the influence of the post-fordist “flexible-specialisation” orientation of the ISP (Department of Finance 1996; Department of Trade and Industry 1998; Hirsch 2005). These incentives sought to promote SME investment, innovation and competitiveness. In practice these “supply side measures” interventions were thinly spread over a multiplicity of firms and objectives, limiting their impact (Roberts 2005; Zalk 2014).

Continuity over the post-apartheid period in support of large resource-processing projects has been evident, not only with respect to IDC funding and the 37E tax allowance discussed in the previous section, but in terms of the 1996 Tax Holiday Scheme and a Strategic Investment Programme (SIP) in operation between 2002 and 2007 (Hanival and Rustomjee 2008). This support was extended with few conditionalities to support the development of downstream industries. Although the 37E tax allowance apparently included an obligation to sell output at export parity prices to downstream fabricators using the input to manufacture products for the export market, the extent and duration of these commitments are unclear, with little evidence of monitoring and enforcement. Commitments to provide export parity pricing for fabricated exports appear to have been linked to time-bound commercial contracts which have apparently lapsed, for instance in the case of BHP Billiton’s

provision of aluminium from its Richard's Bay plants and Iscor's sale of steel from its Saldanha expansion. In practice Iscor evaded this requirement by supplying output from its newly established Saldanha plant at export parity prices to the co-located Duferco project on condition that Duferco only sell its output into the export market (Hanival and Rustomjee 2008; Roberts and Rustomjee 2010).

In the absence of an overall industrial policy framework and outside of support for capital-intensive resource-processing sectors and generic on-budget support there have been two major areas of sector-specific industrial policy support since the early 1990s: for the automotives and clothing and textile sectors. Under the Motor Industry Development Programme (MIDP) which commenced in 1995 the industry was restructured from multiple inefficient platforms to greater economies of scale and rapid growth in exports. Major challenges remain, however. A trade deficit in both vehicles and components has been high and risen. Domestic component production has been concentrated on narrow areas such as catalytic convertors and leather seat covers. The focus of a revised phase of automotive policy – the Automotive Production Development Programme (APDP) from 2013 through 2020 – aims to raise economies of scale and localisation. The effectiveness of the programme has been contested with detractors arguing that levels of support and costs to consumers have been excessive and that the sector, particularly vehicle assembly, is relatively capital intensive in the context of South Africa's unemployment crisis (Flatters 2005). Notwithstanding its limitations the programme has played an important role in sustaining linkages with other sectors such as metal fabrication and as the major source of manufacturing exports not linked to minerals (Barnes and Black 2013).

In an environment at least formally more open to industrial policy, in the context of an uneasy shift to the rhetoric a “Developmental State” towards the end of the Mbeki presidency, a National Industrial Policy Framework (NIPF) (Department of Trade and Industry 2007) was launched in 2007 with implementation guided by subsequent annual Industrial Policy Action Plans (IPAP) (Department of Trade and Industry various years). Cautious support for industrial policy also arose from the market imperfections based inputs of the “Harvard Group” of economists drafted in by National Treasury, as discussed in Chapter 4. The NIPF emphasised the need for interventions to induce structural transformation of the economy away from a reliance on primary and semi-processed mineral commodities, the rapid growth of the financial sector and associated consumption-led growth path, in favour of higher value and more labour intensive manufacturing and other tradable sectors. It identified the need for government-wide policy alignment to support industrialisation including the exchange rate, industrial financing, public procurement, trade and competition policy. However, by the time of the introduction of the NIPF the scale of on-budget support for industrial policy programmes had dwindled with little meaningful budget allocation by the 2006/7 financial year. Notwithstanding Cabinet approval of the NIPF in 2007 Treasury resistance to industrial policy meant that meaningful budget allocations only began from 2009/10 well into the spill-over of the global financial crisis onto the South African economy (Zalk 2014a).

Under the NIPF and sequential IPAPs sectoral strategies were mounted, in practice unevenly, for industries identified as having growth and employment potential as well as to preserve employment in certain vulnerable sectors like clothing. Engineering was identified as a leading cluster of targeted industries in metal

fabrication, capital equipment and transport equipment due to their potential to induce linkage formation with other sectors and to resuscitate and build on pre-existing capabilities (Department of Trade and Industry 2010). Significant emphasis was placed on opportunities to provide machinery and fabricated products into a revived public expenditure programme, particularly in electricity generation and transmission, and the recapitalisation of freight and passenger rail. Successive IPAPs have thus emphasised the need to leverage these areas of public investment in order to build industrial capabilities within firms, initially to serve domestic demand but thereafter capable of competing in export markets as domestic investment peaks and declines. A second area of focus has been to support the further development of a significant pocket of relative export success of capital equipment linked to mining which has unsurprisingly developed as a particular area of competency in the context of South Africa's long history of reliance on mining. A related area of emphasis has been to address the disadvantage that the monopolistic practice of import parity pricing of steel and other semi-processed commodities present for the downstream steel-consuming engineering sectors. The direct and indirect contribution to engineering costs of production of steel inputs in the Metal products and Machinery and equipment sectors is estimated to vary from 23.4 to 42.7% (Table 5.4), rendering steel pricing critical for the ability of these sectors to compete against imports and in export markets.

Table 5.4: Direct and indirect proportion of the value of steel as an input into metal product and machinery sectors (%)

Sector	Sub-sector	% Direct inputs	% Direct inputs + Indirect inputs
Metal products	Structural metal products	32.0%	42.7%
	Other fabricated metal products	36.6%	42.2%
	Treated metal products	35.8%	40.9%
Machinery and Equipment	General machinery	19.3%	24.9%
	Mining machinery	18.8%	24.4%
	Food machinery	18.4%	23.4%

Source: Department of Trade and Industry (2010) based on Statistics South Africa data.

The NIPF and IPAPs identified the need to amend public procurement regulations to introduce local content requirements in areas such as the rail recapitalisation programme and to introduce similar objectives into mining policy and regulations. Leveraging public procurement was also identified in 2009 as a critical measure in the country's response to onset of the global crisis (National Economic Development and Labour Council, 2009). However, reflecting the National Treasury's ideological ill disposition towards such measures, it took until the middle of 2012 to introduce the necessary amendments to the Preferential Procurement Policy Framework Act (PPPFA) (Zalk 2014a) The amended regulations empowered the DTI to "designate" certain products procured by public entities, requiring minimum levels of local content. Initially designated sectors have included rail rolling stock, buses, certain inputs into electricity generation and labour-intensive products such as apparel. In practice there have been substantial delays in the implementation of these designations by National Treasury (Department of Trade and Industry various years). Furthermore, there is limited evidence of compliance with designations, particularly with respect to the large-scale rail rolling stock procurement programmes by the SOEs responsible for freight and passenger rail respectively: Transnet and Prasa (Department of Trade and Industry various years; Crompton et al. 2017). Apparent failure to give meaningful effect to localisation requirements

have coincided with reportedly corrupt deals struck with foreign OEMs, linked to the patronage networks described in Section 5.3.3 (Bhorat et al. 2017)

5.4.4 The role of competition policy

Apartheid-era competition policy is widely considered to have been ineffective in curbing the highly concentrated conglomerate structure that was consolidated, extensively via acquisition rather than net new investment, over the 1980s, or in acting against abuses of market dominance. Unlike large conglomerates in Japan or South Korea, there was little association between South African conglomeration and the development of a dynamic and internationally competitive industrial base outside of the commodity processing sectors (Joffe et al. 1995; Fine and Rustonjee 1996; Roberts 2004).

In practice, and belying their rhetoric of support for Anglo-American style orthodox market policies that include robust measures against anti-competitive structure and conduct, the content of post-apartheid competition policy and legislation was heavily contested by the conglomerate groups in order to circumscribe its scope. The new Competition Act of 1998 (Republic of South Africa 1998) was formulated along restrictive lines with a strong emphasis on consumer protection, limited ability to address *pre-existing industrial structure*, and stronger powers than ersatz apartheid-era competition legislation to act against ex-post anti-competitive behaviour (Roberts and Zalk 2004; Makhaya and Roberts 2013).

In its first few years, and coinciding with the most intense period of corporate unbundling and re-consolidation, the competition authorities focused almost

exclusively on a minimalist function of assessing large mergers, blocking only a handful which would obviously have an egregious impact on competition (Chabane et al. 2003). In the steel sector it approved a number of mergers without substantive conditions related to the development of steel using-sectors. These included the merger of Iscor and Saldanha and between steel traders Trident and Baldwins and most starkly the approval of LNM's (the precursor to ArcelorMittal) acquisition of a majority stake in Iscor (Chabane et al. 2003), as discussed Chapter 7.

Competition policy has proved an extremely limited instrument in dealing with the practice of import parity pricing of semi-processed industrial inputs, particularly metals and chemicals. Country and sub-regional specificities render this a particular problem in the South African economy. Scale intensive industries such as steel are likely to be product-specific natural monopolies in a small economy. Hence the alternate source of supply for steel-consuming industries is to import. This allows domestic producers to price up to the point it would cost to import: namely an import parity price. The practice of charging higher prices in the domestic than export markets, even in the absence of tariff protections, is undoubtedly widespread worldwide to a greater or lesser degree (implying some degree of dumping in export markets). However, the confluence of specific product and geographic conditions render it a particular, possibly unique, constraint to South African manufacturing. Bulky and heavy semi-processed products like steel embody a high weight-to-value ratio meaning that sea freight and rail costs make up a relatively large proportion of the delivered price. In most regions of the world, potential alternative regional sources of supply discipline pricing even in small economies. Due to the under-industrialisation of the Southern African region, there are no competing integrated steel plants in the region. Furthermore, the location of a large part of steel-

consuming industries in the inland “PWV” (Pretoria-Witwatersrand-Vereeniging) or “Vaal Triangle” area impose high relative external and internal transport costs to imports. This has allowed domestic primary producers, particularly Iscor and Highveld to price steel up to what it *would* cost to import, that is to introduce a set of notional transport and related costs into domestic steel pricing including a “hassle factor” to capture the logistical disadvantages of importing. Thus notwithstanding the largest domestic producer, and hence price leader, Iscor and its successor AMSA having been for a sustained period of time in the lowest quartile of the global cost curve they have priced steel in the highest quartile of global prices. As elaborated in Chapter 7, however, much of this cost advantage was derived from concessional iron ore arrangements, with the commodity boom of 2002-2008 masking underinvestment and rapidly rising inefficiencies.

5.4.5 Labour market inflexibility and skills deficits: the villains of weak post-apartheid industrial performance?

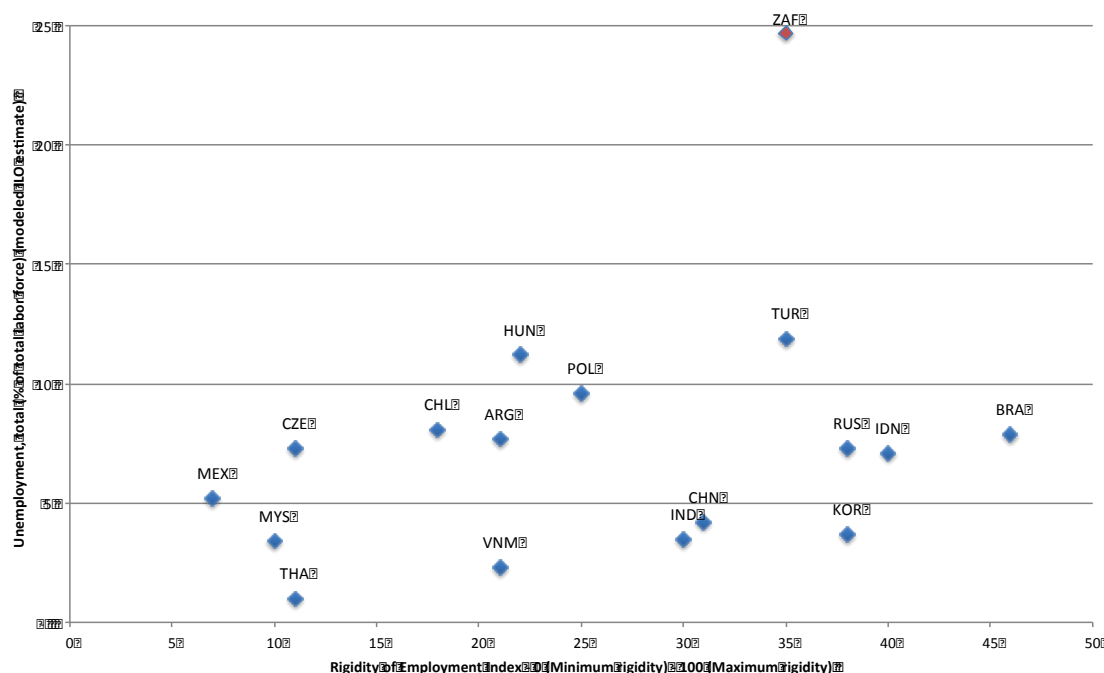
As apartheid racist controls over black movement, occupation and social provisioning shifted over the post-war period to becoming more obviously inimical to accumulation, conglomerates such as Anglo and Rembrandt called for measures to create a more stable urban black workforce, including the legalisation of black trade unions. However, the conflicts of the 1980s often blurred the boundaries between political and workplace struggles, leading to high levels of conflict (Forrest 2011). Thus the prospect of a post-apartheid labour market regime which provided for orderly collective bargaining was initially welcomed by conglomerates such as Anglo (Anglo American Industrial Corporation various years).

Declining post-apartheid manufacturing employment amid rising economy-wide unemployment is linked to a dominant consensus, traced in Section 4.1.2, that excessive labour market protections have been extended since the mid-1980s to low skilled workers while a poorly performing education system and vocational skills have perpetuated the apartheid-era legacy of skills shortages in the context of increasingly “skills biased technical change”. From this perspective the major post-apartheid policy weakness has not been the “neoliberal” policies that flowed from GEAR but the failure to implement its commitment to labour market deregulation (Nattrass 2003; Nattrass and Seekings 2010; Kaplan 2015a, 2015b). An alternate view is that declining manufacturing employment and high unemployment are due to structural features of the economy, including weak domestic demand, low levels of fixed investment in manufacturing amid a shift toward a far greater financial orientation of the economy, and the continued dominance of capital-intensive heavy industry with manufacturing (Adelzadeh 1996; Standing et al 1996; Weeks 1999; Mohamed and Roberts 2008; Ashman et al. 2013a).

Available empirical indicators cast significant doubt on the claim that South Africa’s uniquely high levels of unemployment can be explained predominantly in terms of labour market inflexibility, excessive wage rates and weak skills formation. First, notwithstanding surprisingly little cross-country data compiled on South African wage rates, available evidence suggests, that while South Africa is not a very low wage economy, relative unit labour costs in manufacturing declined substantially between the 1970s and the late 1990s relative both to developed and developing countries (Edwards and Golub 2004). Furthermore, relative wages in tradable sectors are sensitive to exchange rate movements, with periods of overvaluation pushing up relative wage costs even in the absence of domestic wage increases

(Rodrik 2008, Zalk 2012, 2014a). Second there is no obvious relationship between measures of labour market rigidity and unemployment across a range of developing countries as reflected in Figure 5.4, suggesting South Africa's uniquely high levels of unemployment cannot predominantly be explained by levels of labour market rigidity.

Figure 5.4: Rigidity of employment index versus unemployment (%), 2010



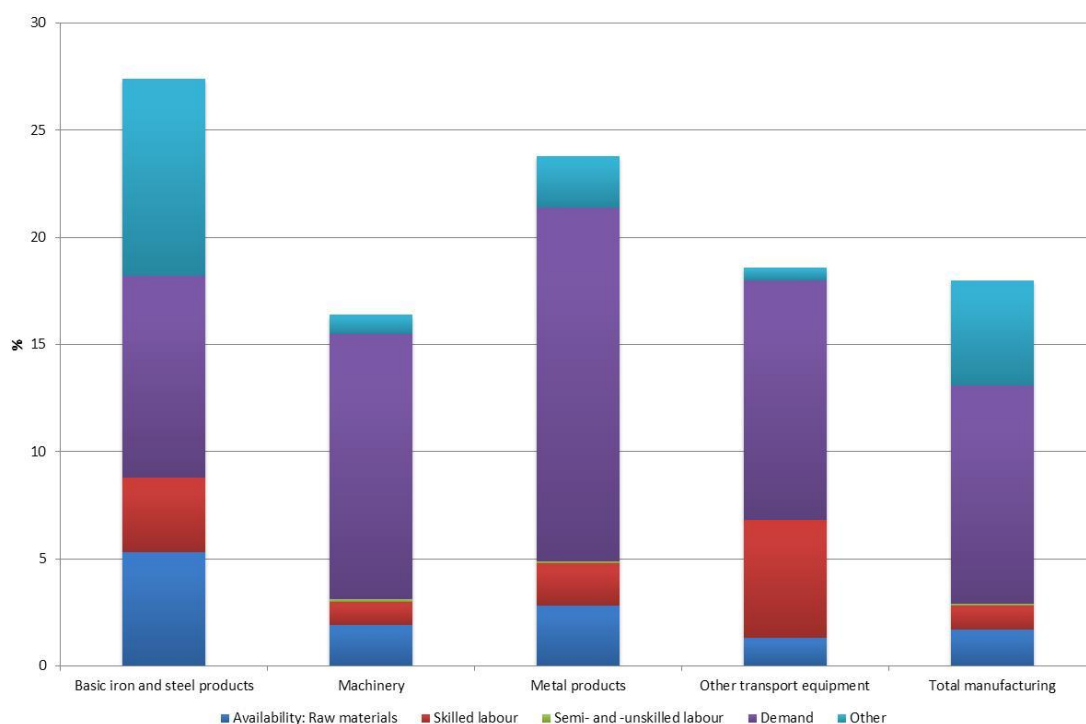
Source: Author's calculations based on World Development Indicators (World Bank n.d.a) and World Bank Rigidity of Employment Index (n.d.b)

Note: ARG: Argentina, BRA: Brazil, CHL: Chile, CHN: China, CZE: Czech Republic, HKG: Hong Kong SAR, China, HUN: Hungary, IND: India, IDN: Indonesia, KOR: Korea, Rep., MYS: Malaysia, MEX: Mexico, POL: Poland, RUS: Russian Federation, ZAF: South Africa, THA: Thailand, TUR: Turkey, VNM: Vietnam

Third, shortages of skilled labour do not feature as prominent reasons given by firms for underutilisation of production capacity (Figure 5.5). Rather firms cite inadequate demand as their overwhelming constraint. This is not to suggest that skills formation is irrelevant or deny fundamental weaknesses with skills development institutions. Rather it suggests that skills shortages are not the proximate constraint to the growth of manufacturing value-added and employment.

Indeed, inadequate skills would likely become a much more significant constraint in the eventuality of more rapid manufacturing output growth.

Figure 5.5: Reasons for underutilisation of production capacity (%), 2013

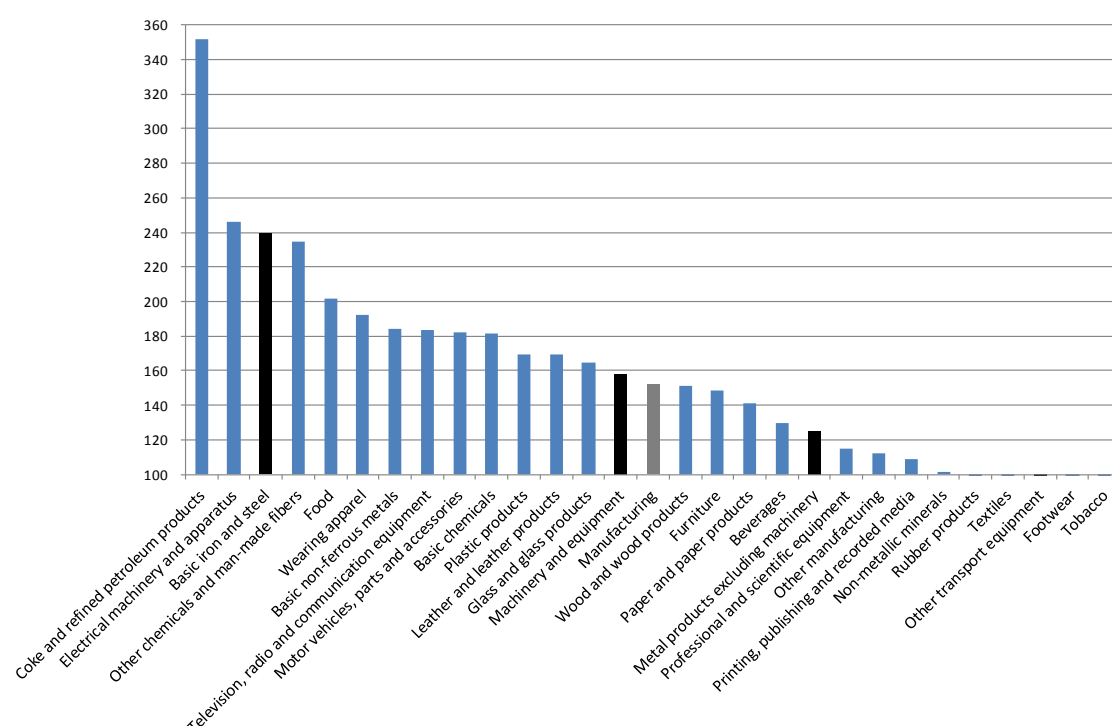


Source: Author's calculations based on Statistics South Africa (n.d.)

5.5 Economic performance: putting the brakes on the engine of growth

South African manufacturing has performed poorly relative to peer middle-income countries over the post-apartheid period, as discussed in Chapter 1, reflected by lower levels of fixed investment, share of manufacturing in GDP and growth of manufactured exports. Within the South African economy manufacturing was the fourth slowest-growing broad sector between 1990 and 2015 after electricity, agriculture and gold mining (South African Reserve Bank n.d.). Weak manufacturing growth has been accompanied by a large reduction in employment, from 1.63 million workers in 1990 to 1.14 million in 2015 representing a loss of 30% of the manufacturing workforce (South African Reserve Bank n.d.).

Figure 5.6: Index of sectoral manufacturing value added (MVA) growth (Rm 2010), 1990-2015 (1990=100)

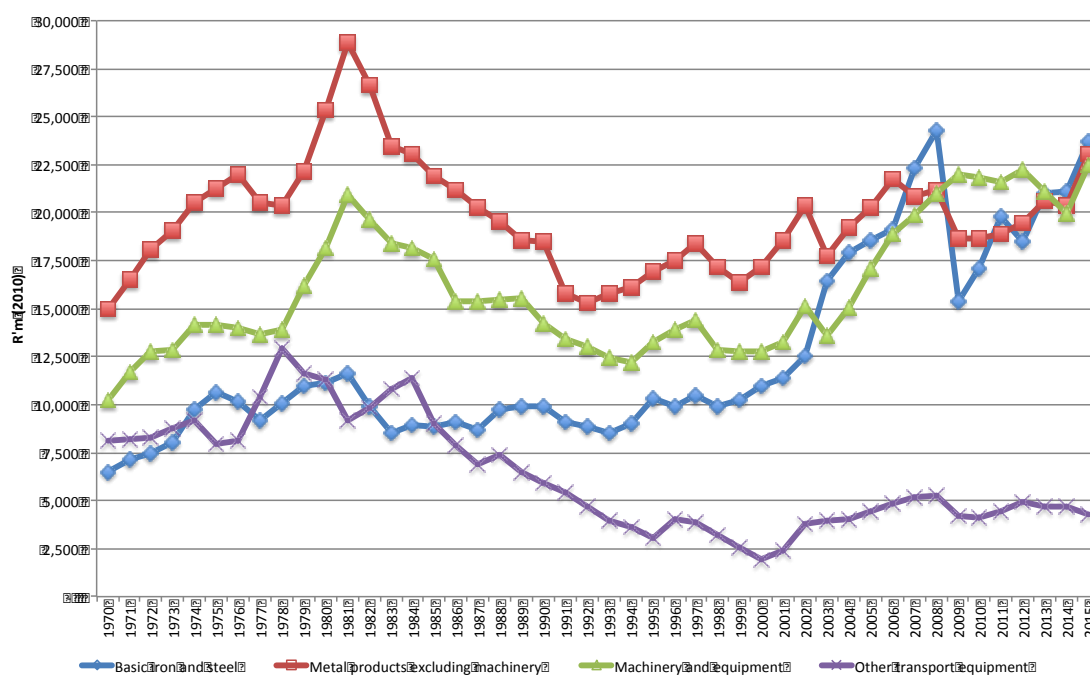


Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

Figure 5.6 demonstrates that manufacturing was only 50% larger in real terms in 2015 than it was in 1990. By contrast the steel sector has grown by over 140% over the same period while the Machinery sector has slightly outperformed manufacturing as a whole. Both Metal products and Transport equipment have grown more slowly than the manufacturing average, with the latter slightly smaller than it was in 1990. These overall patterns however, mask variations over the post-apartheid periods including both pockets of success and fundamental weaknesses. A longer term perspective indicates that the engineering sector, comprising Metal products, Machinery and Transport equipment peaked in the early 1980s and collectively has yet to recover these levels as reflected in Figure 5.7. This reflects, as discussed in Chapter 3, the reliance of engineering on demand from large and lumpy fixed investments in mining and heavy industry and associated electricity and transport infrastructure and its limited subsequent reorientation. In South African

historical context, thus, Machinery and equipment stands out as the only engineering sector to have recovered and surpasses its peak of the early 1980s. Machinery achieved a robust period of growth over the 2000s coinciding with a boom underway in parts of the South African mining sector, notably platinum, and elsewhere on the continent. The steel sector was more than twice as large in 2008 than its sub-peak in the early 1980s. As elaborated in Chapter 7 this reflects the state-supported expansions of the 1990s and the boom in international steel prices from the early 2000s, with the latter driven by large increases in price even as absolute levels of steel output were falling and inefficiencies setting in.

Figure 5.7: Steel and Engineering sector value added (Rm 2010), 1970-2015

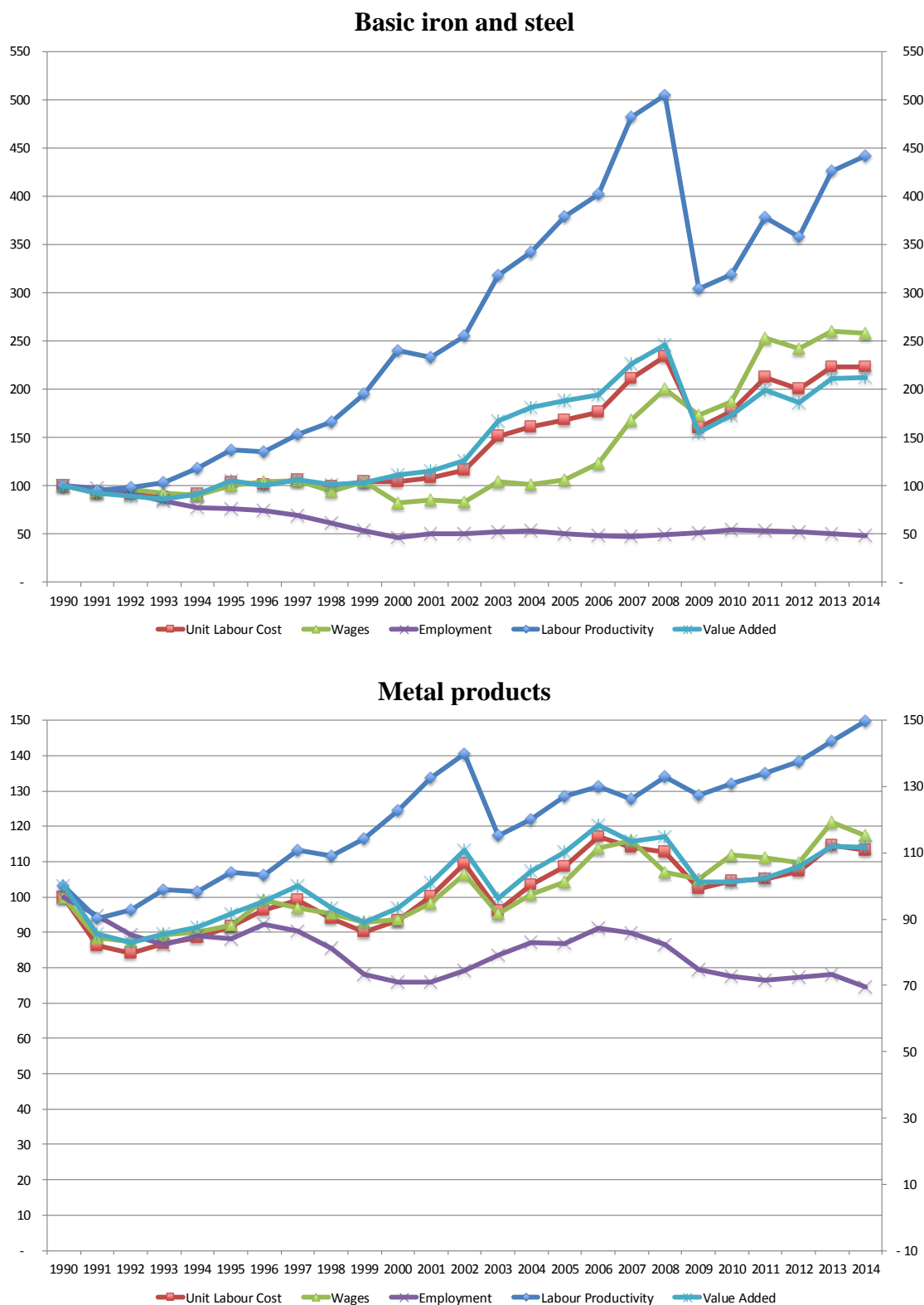


Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

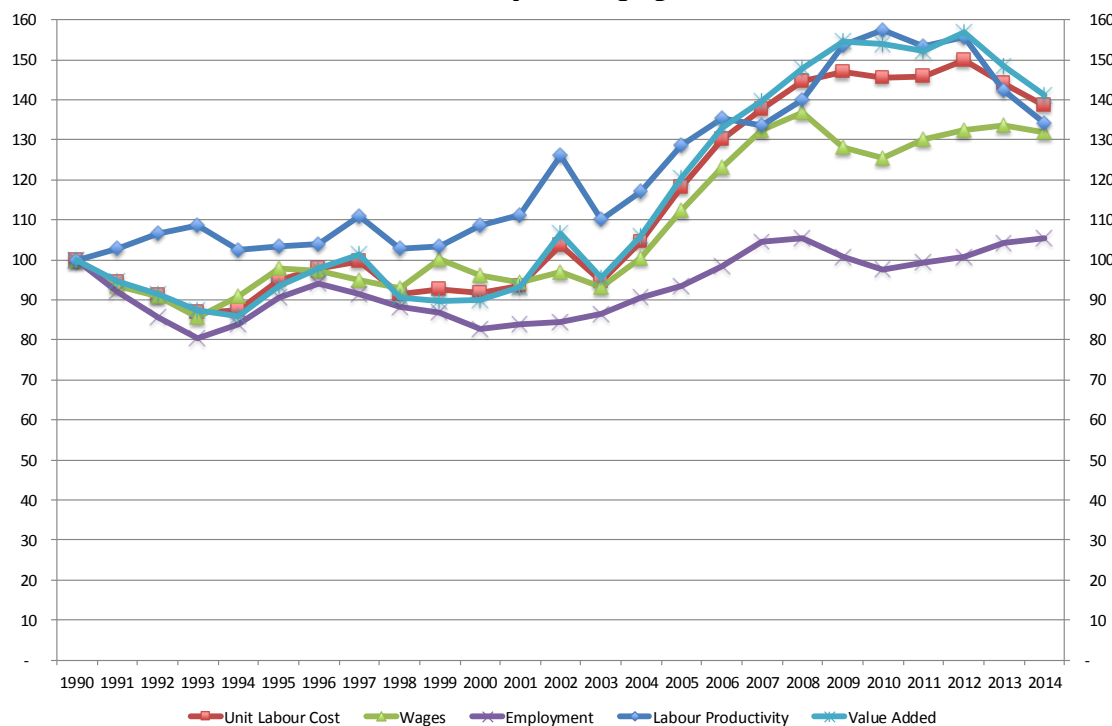
Figure 5.7 reflects a number of more detailed patterns in steel and engineering. In all but Transport equipment wages and unit labour costs have moved in tandem with labour productivity outstripping growth in both wages and value-added.

However, in all but Machinery there has been a large decline in employment levels, most starkly in Steel.

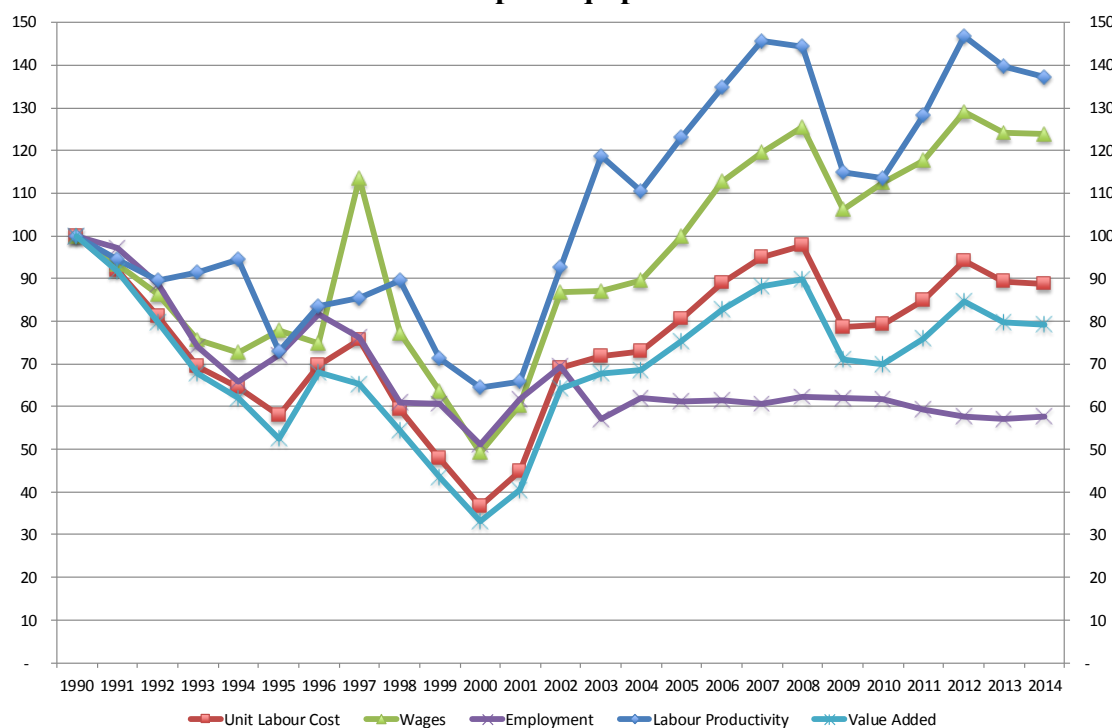
Figure 5.8: Index of Steel and Engineering value added, unit labour costs, wages, labour productivity (Rm 2010) and employment, 1990-2014 (1990=100)



Machinery and equipment



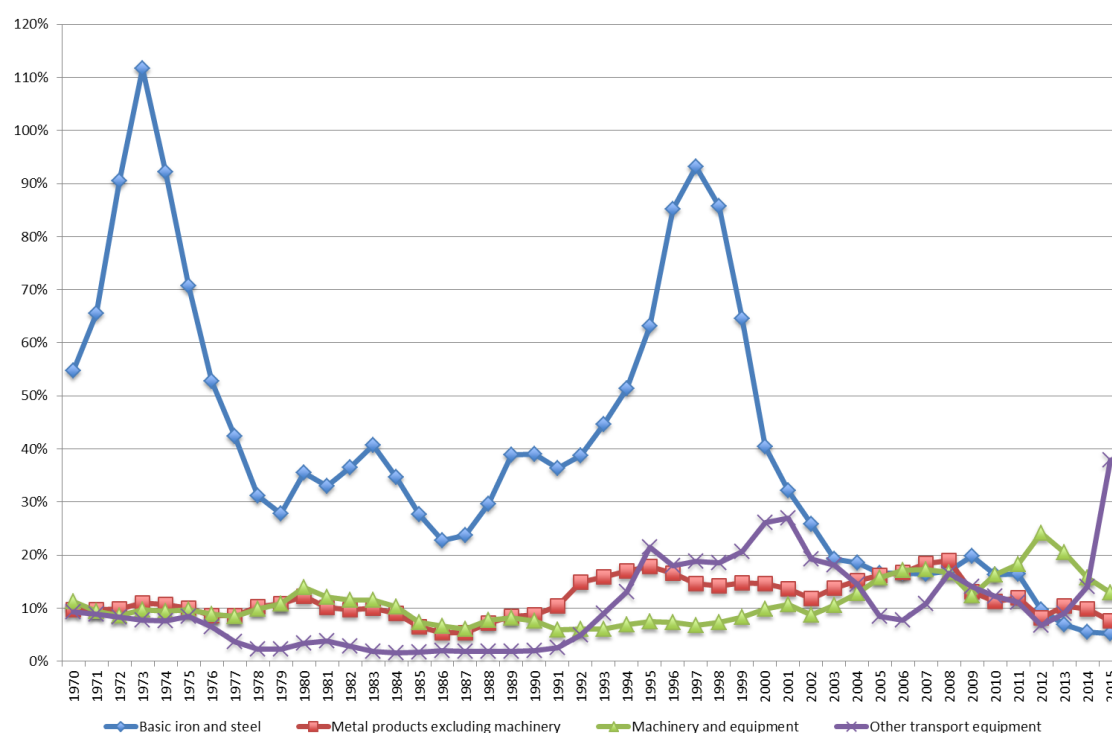
Transport equipment



Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

An influential argument seeking to explain the divergence between relatively high labour productivity and falling employment returns to the nexus of relatively high wages for low-skilled workers hypothesising that employment has fallen because manufacturers have replaced workers with machines (Nattrass 2003, 2014; Nattrass and Seekings 2010; Bhorat et al. 2014; Kaplan 2015a, 2015b). However, this “overinvestment” hypothesis is difficult to reconcile with actual investment rates in steel and engineering demonstrated in Figure 5.9, with no obviously dramatic increase over the last two decades. Machinery, the sector which has raised its investment rate from around 5% of value-added in 1995 to over 20% in 2012 has been the single sector which has retained and slightly grown employment levels. Conversely, Steel which has shed 50% of its workforce since 1990 has been characterised by a dramatic fall in its investment rates. As discussed in Chapter 7, the fall in investment rates in the steel sector has been associated with escalating inefficiencies under foreign ownership, which were masked for a period of time by rising steel prices during the global commodity boom of the 2000s.

Figure 5.9: Steel and Engineering investment rates: Gross domestic fixed investment to value added (Rm 2010), 1970-2015



Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

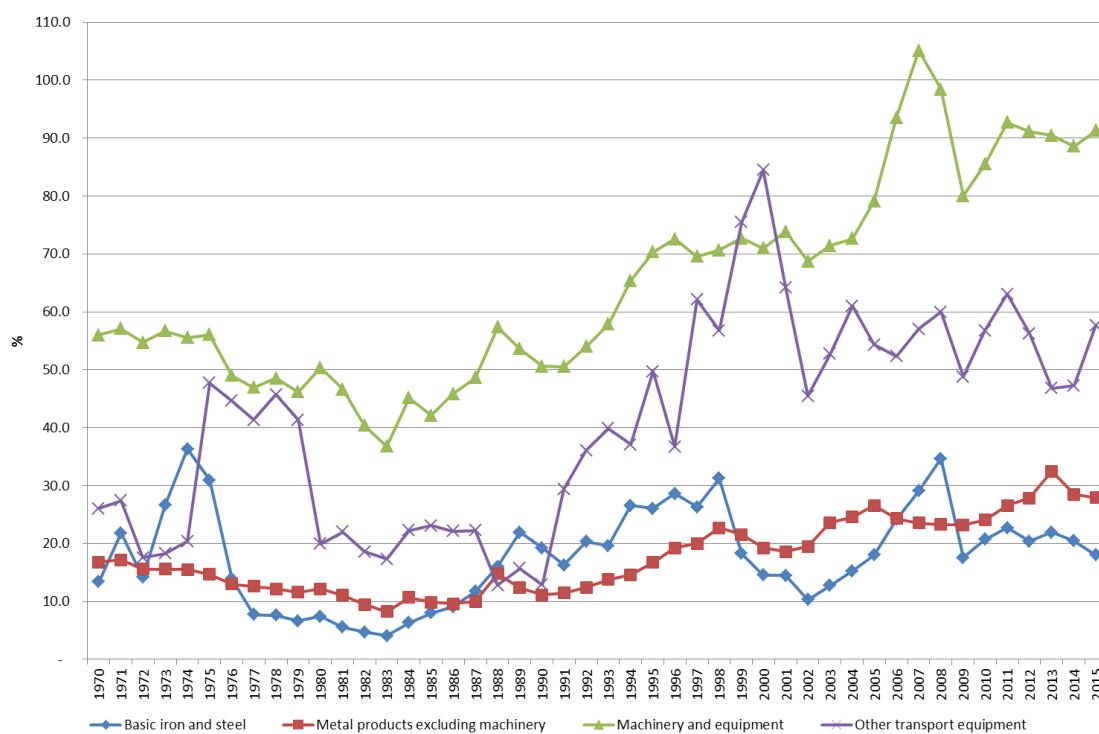
Note: Investment rate is calculated as the percentage of Gross Domestic Fixed Investment to Value Added

Notwithstanding obvious problems with estimates of the level of import penetration, which appear to overstate levels of import intensity, Figure 5.10 reflects that import penetration has risen substantially in the engineering sector over the post-apartheid period, most dramatically in the Machinery and equipment sector. This is reflective of a generalised trend across manufacturing as a whole in which import penetration doubled between 1990 and 2014 from under 20% of domestic demand to over 40% as trade liberalisation advanced (Quantec n.d.). Machinery and equipment imports, already at 50% by 1990 are recorded to have grown to 90% of domestic demand by 2015. Similarly, import penetration in transport equipment grew exceptionally rapidly from 30% in 1990 to over 90% before settling into a range of 60–70%. Import penetration in metals products tripled from 10% to 30%. Furthermore, since 2003 basic iron and steel, historically

manifesting relatively low levels of import penetration, saw its share of demand supplied by imports rising dramatically to a peak of 40% in 2008 before levelling off at around 25% by 2014.

The evident anomaly of an import penetration ratio in excess of 100% in the case of machinery and equipment in 2007 strongly suggests the inclusion of imports for re-export in these estimates, biasing upwards the estimated *levels* of import penetration. The likely inclusion of re-exports is further reflected in estimates of the export-output ratio, which in the case of Machinery and equipment also exceeds 100%. Therefore, the *trend* in these ratios should be considered as indicative of developments in these sector rather than the levels themselves.

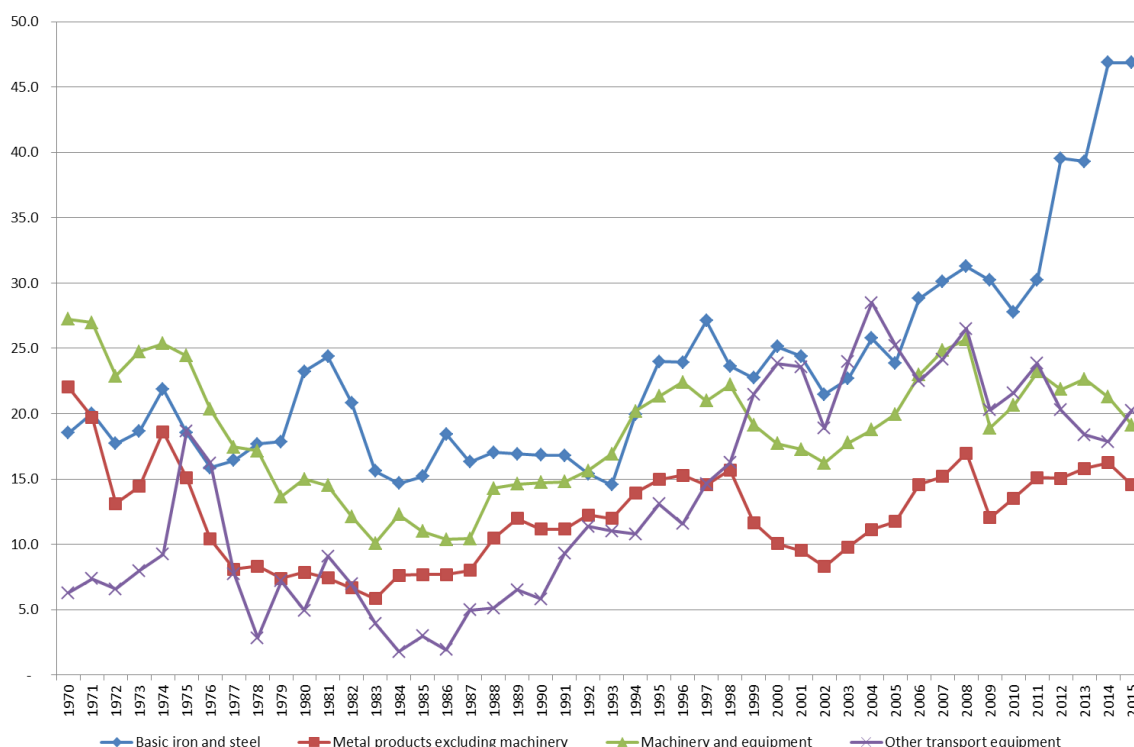
Figure 5.10: Imports to domestic demand ratio in Steel and Engineering (%), 1990-2015



Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

Not only have imports of final goods risen but the import intensity of production in steel and engineering, with some fluctuations, has also risen substantially over the post-apartheid period as reflected in Figure 5.11. These increases have been most dramatic in Steel and Transport equipment. The dramatic rise in the import intensity of steel production is at face value counter-intuitive. The bulk of primary steel production has historically drawn overwhelmingly on domestic goods and services such as iron ore, electricity and transport services with coking coal the major imported input. Thus, the particularly large increase in import intensity since 2001 reflects three main factors associated with the shift to foreign ownership of Iscor, as elaborated in Chapter 7. First, the transition from Iscor to ArcelorMittal South Africa (AMSA) has seen large increases in the levels of imports by AMSA itself from its own global parent, reflected by a dramatic increase in related party purchases. These purchases have in turn reflected the need to import due to multiple plant failures as well rationalisation of product lines produced in South Africa. Second, it is reflective of the shift by second-tier primary steel producers, to import steel rather than purchase domestically from AMSA due to high domestic prices. Third, and relatedly is the escalation of Chinese steel imports by second-tier producers as China's growth and steel consumption has slowed.

Figure 5.11: Intermediate import ratio in Steel and Engineering (%), 1990-2015

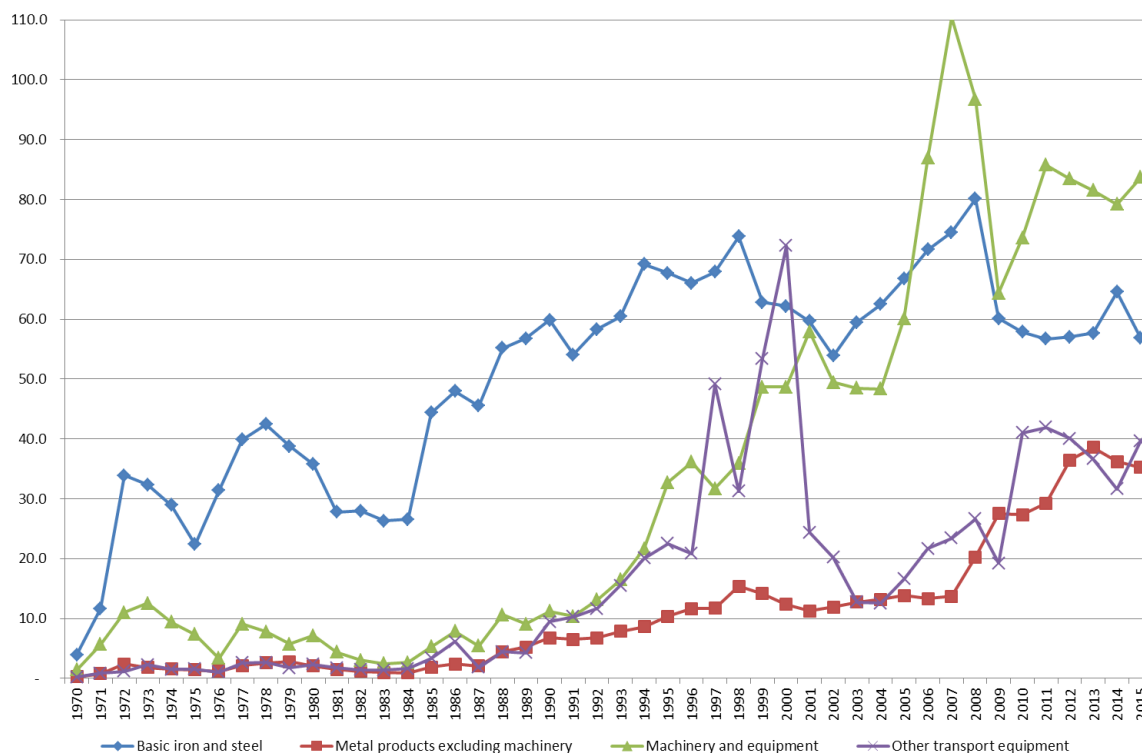


Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

Manufacturing in general, and the steel and engineering sectors have become substantially more export oriented since 1990 as indicated in Figure 5.12. Metal products and Transport equipment exports have also risen substantially over the period to 30% of output. The Machinery and equipment sector has become the most dramatically export oriented over the post-apartheid period rising to a recorded level of production of around 80%. While almost certainly an overstatement of its level (due to the apparent inclusion of re-exports this increase is indicative of a process of hollowing out of the breadth of the capital goods sector (with the bulk of the domestic market served by imports) with international competitiveness circumscribed to a limited niche linked primarily to mining capital equipment. This is in turn indicative of the loss of engineering capabilities outside of mining capital equipment over the post-apartheid period, as reflected most dramatically in Chapter 8 by the destructive unbundling of South Africa's largest ever engineering firm:

Dorbyl. Furthermore, and notwithstanding niche export success in mining capital equipment, the unbundling of Scaw and Boart dismantled two global scale South African mining engineering firms, albeit embodying inherited weaknesses.

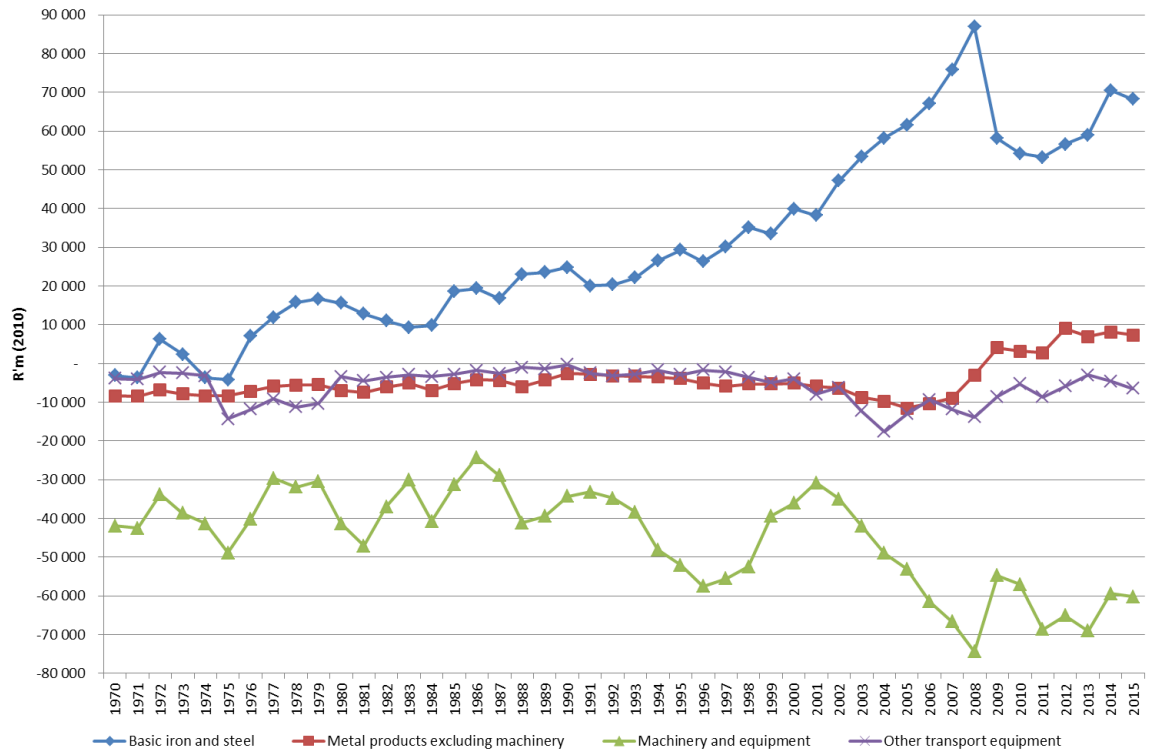
Figure 5.12: Exports to output ratio in Steel and Engineering (%), 1990-2015



Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

In constant Rand terms there has been little aggregate transformation of the composition of the trade balance in steel and engineering between the apartheid and post-apartheid periods with the capital-intensive upstream Steel sector generating a significant trade surplus while engineering, and machinery and equipment in particular, generating a large trade deficit (Figure 5.13).

Figure 5.13: Trade balance in Steel and Engineering (Rm 2010), 1990-2015



Source: Author's calculations based on the South African Standardised Industry Indicator Database (Quantec n.d.).

From the perspective of cumulative causation theory an integrated and dynamic steel and engineering sector has been identified as critical for development due to its potential to stimulate both forward and backward linkages, and develop a denser and more specialised production structure (Hirschman 1958; Toner 1999; Storm 2015) as for instance Korea did in developing a steel industry to catalyse the production of sectors such as ship building and automotives (Amsden 1989). Notwithstanding elements of success, notably a robust export-oriented mining capital equipment industry, the restructuring of steel and engineering reflects a range of weaknesses with negative consequences for broader manufacturing performance and its potential stimulatory effect on the rest of the South African economy. More than three decades since its 1981 peak, the engineering sector (Metal products, Machinery and equipment and Transport equipment combined) in 2015 was still only 85% of its 1981 level whereas steel had grown by 364%

(Quantec n.d.). Low growth and limited investment has been associated with large declines in employment in all but Machinery and equipment. Trade liberalisation has led to large increases in import penetration in both final and intermediate products. There has been a hollowing out of the capital goods sector, with the bulk of capital goods imported amid a pocket of export success chiefly in mining equipment. Furthermore, one of the erstwhile success stories of apartheid heavy industrialisation: steel has been the subject of profound deterioration of its capital stock and capabilities under foreign ownership, resulting in a deep crisis in the domestic steel industry since the global crisis.

A range of empirical studies are supportive of the hypothesis that manufacturing has been and remains the predominant “engine of growth” amongst developing countries in general (Dasgupta and Singh 2005; Szirmai et al. 2013). Wells and Thirlwall (2003) find evidence for such a relationship across African countries, including South Africa. Support for the proposition also been found for South Africa specifically (Wittenburg 1997; Millin and Nichola 2005). The faltering of post-war apartheid growth was a consequence of the underdevelopment of linkages, particularly forward linkages out of heavy industries but also linkages backward from consumer goods and with a particular failure to develop the capital goods sector and deepen intermediate production (Macroeconomic Research Group 1993; Fine and Rustomjee 1996). However, the post-apartheid period has seen the perpetuation and deepening of these weaknesses rather than their reversal. This failure is manifest in the increasing import intensity of steel and engineering sector final demand and production, combined with the limited growth and diversification of engineering exports. Tregenna (2008) estimates that the stimulatory growth effect of an increase in demand for manufacturing transmitted to the rest of the

economy is significantly lower when intermediate inputs are factored in than would otherwise be the case (notwithstanding this effect the growth impetus of a unit increase in demand for manufacturing is larger than that for services, even factoring in intermediate inputs). This implies that the significant increase in import intensity of manufacturing production reflected in the analysis above has weakened the growth-inducing multiplier effects through the economy. This has a knock on effect on employment, with weak growth transmission from manufacturing to services limiting employment growth in services which has a higher employment multiplier than manufacturing.

The weakening of growth multipliers (and by extension employment multipliers) in the South African economy is supported by the estimates produced by Burrows and Botha (2013). They find a consistent weakening between 1980 and 2010 across all sectors of the economy of "total GDP multipliers" that estimate the combined direct, indirect and induced effect of an increase in sectoral output. Table 5.5 illustrates that regardless of period engineering sector multipliers are consistently higher than those for either total manufacturing, finance and insurance or the total economy. By contrast steel has seen a disproportionately large fall in the strength of its multiplier effect.

Table 5.5: "Total GDP multipliers", economy, manufacturing, steel and engineering and finance and insurance, 1980-2010

	1980	1985	1990	1995	2000	2005	2010
Economy - Total	1.82	1.87	1.78	1.71	1.67	1.58	1.60
Manufacturing	1.85	1.89	1.80	1.72	1.68	1.58	1.62
Basic iron and steel	1.83	1.90	1.85	1.75	1.62	1.50	1.49
Metal products excluding machinery	1.95	1.99	1.89	1.79	1.72	1.65	1.69
Machinery and equipment	2.01	2.02	1.90	1.86	1.78	1.66	1.73
Other transport equipment	2.02	1.89	1.91	1.95	1.83	1.74	1.83
Electrical machinery and apparatus	1.88	1.93	1.84	1.78	1.63	1.60	1.63
Motor vehicles, parts and accessories	1.96	2.11	1.88	1.73	1.68	1.58	1.60
Finance and insurance	1.95	1.79	1.71	1.70	1.64	1.65	1.61

Source: Burrows and Botha (2013)

Displaying significant cognitive dissonance Burrows and Botha attribute the decline in the strength of these multipliers to two major factors: increasing trade liberalisation and the unbundling of apartheid-era conglomerates and their greater ability to shift capital abroad but conclude that "the economy has become more specialized towards its comparative advantages, and hence more efficient and competitive" (Burrows and Botha 2013: 30).

5.6 Conclusions

This chapter has set out key policies and institutional arrangements flowing from South Africa's post-apartheid political economy bargains, within a context of major shifts within the global economy. Specifically, it reflects how these policies and institutions of industrial restructuring have not delivered the virtuous economic outcomes conjectured by their advocates. In particular, they have not delivered the promised high levels of fixed investment, in non-traditional manufacturing sectors in particular.

Orthodox policies and the deepening of Anglo-American style capital market institutions have instead facilitated the outflow of long-term investable capital and

replaced it with a reliance on volatile short-term inflows with large-scale rents flowing to institutional investors in particular. The conglomerate legitimisation mechanism of BEE asset transfer, has similarly given rise to large-scale rent flows without a demonstrable contribution to fixed investment in general, and manufacturing in particular. Trade liberalisation has placed intense pressure on sectors such as engineering, without ameliorating the constraint of monopolistic steel pricing while competition policy has not had the power to deal with pre-existing uncompetitive structure. Industrial financing dispensed by IDC, despite some reorientation, remains concentrated in capital intensive sectors. Furthermore, the primacy ascribed to labour market rigidities as the pre-eminent explanatory of weak manufacturing performance and high unemployment, is cast into doubt.

Consequently, and notwithstanding some positive elements, engineering performance has been disappointing and indicative of a number of weaknesses and lost opportunities. While a pocket of relatively high growth exports has emerged in relation to mining equipment, the broader capital equipment sector has been hollowed out by imports amid the destructive unbundling of large engineering subsidiaries. The uncritical embrace of foreign ownership in steel has been associated with the entrenchment of monopolistic pricing combined with chronic underinvestment, leading to a deep crisis in the sector following the global financial meltdown.

The next three chapters set out in detail how these institutional arrangements have shaped a destructive process of corporate and industrial restructuring of the steel and engineering interests of the three large business groups that have dominated sectors at the dawn of democracy: Iscor, Anglo American and Rembrandt.

Chapter Six

Corporate restructuring of Anglo American and Rembrandt

The strategic orientation of a country's big business groups exerts a profound influence over its developmental trajectory (Amsden and Hikino 1994; Chandler 1994; Chandler et al. 1999; Nolan 2001; Chabane et al. 2006). The three business groups that dominated South Africa's iron ore, steel and engineering sectors by the early 1990s, comprising the two largest private conglomerates: Anglo American and Rembrandt and recently privatised Iscor, have been instrumental in shaping apartheid industrialisation and exerting a deep influence over the direction of post-apartheid economic policy. As reflected in Chapter 4, Anglo and Rembrandt, together with the other largest business groups, secured policies amenable to as much "freedom of movement" to restructure capital domestically and shift capital abroad under the rhetorical banner of the superiority of neoliberal policies over alternatives. In doing so they embraced the "benign disciplines" of an increasingly demanding shareholder value movement over possible "interventionist" demands of a post-apartheid state. To secure policies favourable to maximum autonomy to restructure, they initiated the mechanism of BEE as a legitimisation mechanism. This chapter and the two that follow deal with the consequences of these political economy bargains, neoliberal policy orientation, and consequent institutional arrangements on conglomerate restructuring in steel and engineering and the resultant impact on post-apartheid industrialisation.

Section 6.1 deals with the post-apartheid domestic restructuring and internationalisation of Anglo American. It highlights how increasing demands from institutional investors on Anglo to raise shareholder value have led to the demise of

its primary industrial subsidiary AMIC, the deleterious unbundling of its South African steel and engineering assets and ultimately to Anglo's own immiserisation as a global business group. Section 6.2 considers the complex restructuring of Rembrandt and its transition to Remgro involving an increasing financial orientation, an effective bargain with institutional investors to preserve family control in exchange for high shareholder returns, and consolidation of Remgro's investments in sectors amenable to the assertion of one or other form of market dominance. It also reflects how Remgro has engaged with BEE through the careful and strategic introduction of BEE partners and the influence of Remgro's investment holding company model on emerging BEE investment groups. Section 6.3 concludes that, rather than reflecting the operation an efficient market for corporate control, the decisive shift of these groups' strategic orientation amid demands to deliver short term shareholder value resulted in the loss of accumulated engineering capabilities, which might otherwise have been reoriented and developed.

6.1 Restructuring of Anglo American and the demise of the Anglo American Industrial Corporation (AMIC).

Anglo American entered the 1990s as the largest of South Africa's conglomerate groups, accounting for 43.3% of the market capitalisation of the JSE in 1994 (McGregor's various years). Anglo, as with other mining houses, straddled both the real and financial sectors of the economy with its mining finance operations at the apex of its structure and control of one of the largest commercial banks, First National Bank (FNB). Despite direct ownership of only 8.1%, the Oppenheimer family exerted ultimate control through a pyramid ownership structure and interlocking directorships and executive positions (Goldstein 2010). Anglo's

presence in manufacturing was extensive, accounting for around 30% of its revenues in the early 1990s (Ashman et al. 2013b). In 1994 Anglo's interests straddled mining: including gold, uranium, diamonds, coal, platinum, ferrous metals; industry and commerce; and financial services and property. Industrial and commercial holdings included:

Agriculture, aluminium products, bricks, carbon black, chemicals, computers, construction, electrical engineering, electronics, engineered materials; explosives, fertilisers, food, beverage and wine, forestry, freight, gas, heavy engineering, iron, milling, motor assembly components and distribution, oil, paint, paper and pulp, packaging, petrochemicals, pharmaceuticals, plastics, retailing, shaft-sinking, steel, sugar, textiles, timber products, trading, travel and tourism, and vanadium.

(Anglo American Industrial Corporation 1994: 6)

6.1.1 Domestic restructuring and offshore listing of Anglo American

As Anglo sought to redefine its post-apartheid form in relation both to the state and institutional investors, it began a process of fundamental restructuring and unbundling. Anglo consciously sought to establish whether its most definitive act of accommodation with Afrikaner capital, its sale of General Mining in 1964 to Federale Volksbeleggings, could be used as a model for the unbundling of non-core assets into black hands (Cargill 2010). Concluding that it could, in 1996 Anglo initiated the unbundling of its Johannesburg Consolidated Investments (JCI) subsidiary into three entities. Amplats, comprised JCI's platinum assets, was retained by Anglo.

Johnnic, made up of stakes in industrial activities including South African Breweries, food and beverage manufacturer Premier, Toyota (South Africa), engineering group Lenning and Times Media newspaper group, was sold to a group of black investors, the National Empowerment Consortium headed up by former trade-unionist leader and ANC Secretary General Cyril Ramaphosa. The remainder of JCI, comprising gold and coal mining, ferrochrome and other base metals was sold to a consortium headed by former Robben island political prisoner Mzi Khumalo. This deal collapsed under controversial circumstances with Khumalo accused of enriching himself and with Anglo ultimately buying back JCI's gold assets (Chabane et al. 2006; Cargill 2010). Despite a widespread consensus of the failure of the JCI deal as emblematic of the broader failure of a "first wave" of BEE deals, Anglo continues to celebrate it as "the biggest black empowerment deal in South African corporate history" (Anglo American 2016). The collapse of deals such as the JCI unbundling in turn ushered in intense pressure for the ultimate entrenchment of BEE in policy, legislation and regulation, which in turn has exerted a profound subsequent influence on Anglo's South African mining operations.

Anglo sought to anticipate and respond to long-standing dissatisfaction by institutional investors of the discount at which its shares were estimated to trade relative to their net asset value. This pressure from investors, particularly after listing on the London Stock Exchange, has seen Anglo undertake a series of restructurings to remove pyramidal ownership structures and cross-holdings and to define and focus on its "core" mining business and dispose of its "non-core" businesses. This has seen it dispose of its industrial and other non-mining businesses including its steel and engineering interests. In 1997 Anglo consolidated its gold and platinum interests under AngloGold and Amplats respectively which,

together with De Beers became the three main subsidiaries of a reconstituted group focused on mining and metals production. In 1998, Anglo merged its financial service interests in FNB and Southern Life with RMB to create FirstRand in which it held a 15.3% stake. It then swapped its FirstRand stake with Rembrandt in exchange for 7.1% of Billiton and 11.3% of Goldfields in 2000 consolidating Anglo's presence in mining and Rembrandt's in finance respectively (Chabane et al. 2006). In 1998 the Anglo American Industrial Corporation (AMIC) was reabsorbed into the parent company. Between 1997 and 2001 Anglo disposed of its stake in a range of "non-core" businesses including automotive assembly and distribution, and chemicals business AECI. As discussed in Chapter 7 Anglo acquired the majority stake in Kumba Resources in 2003, Iscor's erstwhile mining division separated out during Iscor's 2001 unbundling. In 2009 part of Kumba's iron ore deposits became the site of intense conflict over which set of interests would benefit from the lucrative rents these deposits embodied in the context of rising iron ore prices.

Anglo secured the state's approval to shift both its primary listing and domicile to the UK, arguing that such a step would allow it to raise capital more cheaply *inter alia* to raise its levels of investment in South Africa (Walters and Prinsloo 2002). In 1999 Anglo merged with its offshore sibling Minorco and listed on the London Stock Exchange as Anglo American PLC (Anglo plc), shifting its domicile to the United Kingdom (Goldstein 2010). Anglo also separately listed South African Breweries (SAB) on the London Stock Exchange in 1999, selling off its remaining holding in SAB in 2002. No conditions were attached to these offshore listings, in contrast to Australian mining company BHP's London listing, with the Australian government insisted that BHP remain headquartered in Australia (Godsell 2016). Despite the initial fillip to Anglo's share price upon listing on the LSE, initial restructuring efforts

were not deemed adequate by institutional investors (Carmody 2002).³⁰ As Anglo's shares continued to trade at a lower price to earnings ratios than peers such as Rio Tinto and BHP Billiton, it continued to come under pressure to institute further unbundling amid pressure to raise its share price and deliver higher dividends to shareholders (Chabane et al. 2006). Thus in 2000 Anglo announced its intention to make further disposals. In 2001 it removed its historic cross holding with De Beers, facilitating the purchase, delisting and distribution of De Beers holding in Anglo to shareholders with Anglo increasing its direct interest in De Beers to 45 percent (Goldstein 2010).

6.1.2 Anglo's decline: "mugged by the shareholder value maximisers"

In line with rising pressure from institutional investors for Anglo to become a focused mining company it made a series of acquisitions, in iron ore (Brazil and Australia), coal (Australia, Canada and Columbia) and copper (Chile and Peru) (Anglo American 2014). Following a strategic review in 2005 Anglo recommitted to becoming a "more focused mining Group" and embarked on a period of returning "surplus capital to shareholders" through share buybacks and special dividends (Anglo American 2005a).

Between 2006 and 2009, and excluding normal and special dividends, Anglo transferred approximately \$12.2bn or around R90.3bn (based on an annual average exchange rate of R/USD 7.4) to its shareholders through share repurchases (Thomas 2014). This period coincided with an intensification of unbundling of non-mining

³⁰ Anglo received a boost to its share price because its debut on the LSE was large enough to place it within the FTSE 100, in which various tracker funds automatically invest (Carmody 2002).

assets and pressure to maximise payments of “surplus” capital to shareholders (Hannemann 2014). In 2005 it disposed of Boart Longyear and Samancor Chrome and in 2006 initiated the process of selling Highveld steel to Evraz which was completed in 2007. Also in 2006 Kumba Resources was split into separately listed entities: Kumba Iron Ore with Anglo holding 64% and Exxaro which became a Black Economic Empowerment mining company based on coal and heavy minerals. In 2007 paper and packaging subsidiary Mondi was demerged with around \$3.7bn in Mondi shares distributed to shareholders. Also in 2007 Aluminium extruder Hulamin was split off from Anglo subsidiary Tongaat-Hulett. As elaborated in Chapter 8, Scaw was “corporatised” in 2008 and ultimately sold to the IDC in 2012 (Anglo American various years).

In 2007 Anglo initiated a process of exiting the gold mining industry it had dominated for over a century as it began selling down its holdings in AngloGold Ashanti, a process concluded in 2009. By 2008 Anglo accounted for the single largest share in global production of platinum and diamonds (via its 45% shareholding in De Beers), accounting for 40% of the output of both minerals and was also a major global producer of copper, ferrous minerals: iron ore, manganese, metallurgical coal and nickel; thermal coal and other minerals (Anglo American 2009). Anglo has been far more adversely affected by the downturn in global commodity prices following the global financial crisis than competitor global commodity groups Glencore, Rio Tinto and BHP Billiton. A major factor in its relatively poor performance has been its largest strategic bet made on the troubled Minas-Rio iron ore project in Brazil which has exhibited massive cost and time overruns and brought the group into financial distress (Wilson 2015).

Anglo's re-domiciling and relisting on the London Stock Exchange has culminated in the severe loss of industrial capabilities in steel and engineering and has been a failure in its own narrow financial terms. Whereas Anglo set out in 1999 to eliminate the estimated 25% discount at which its shares traded to net asset value, by 2016 this discount had widened to 60% (Gapper 2016). In the words of Bobby Godsell, former Anglo director and advocate of Anglo's corporate emigration from South Africa, Anglo's listing on the LSE has seen it "mugged by the shareholder value maximisers" and "has been disastrous for Anglo and disastrous for South Africa" (Godsell 2016).

6.1.3 The demise of the Anglo American Industrial Corporation

As described in Chapter Three, Anglo's steel and engineering interests were consolidated and expanded under the Anglo American Industrial Corporation (AMIC) since its establishment in 1969 as a vehicle for expanding from gold mining into manufacturing, predominantly into heavy industry. AMIC reflected the single largest concentration of Anglo's industrial holdings with other important stakes lodged in JCI. Within AMIC these were concentrated in three industry groupings: Iron, steel and engineering (comprising its Highveld, Scaw, Boart and Dorbyl holdings): 42.5%; Chemicals and explosives (largely AECI): 17.3%; and Pulp, paper forestry and timber (dominated by Mondi): 12.6%.

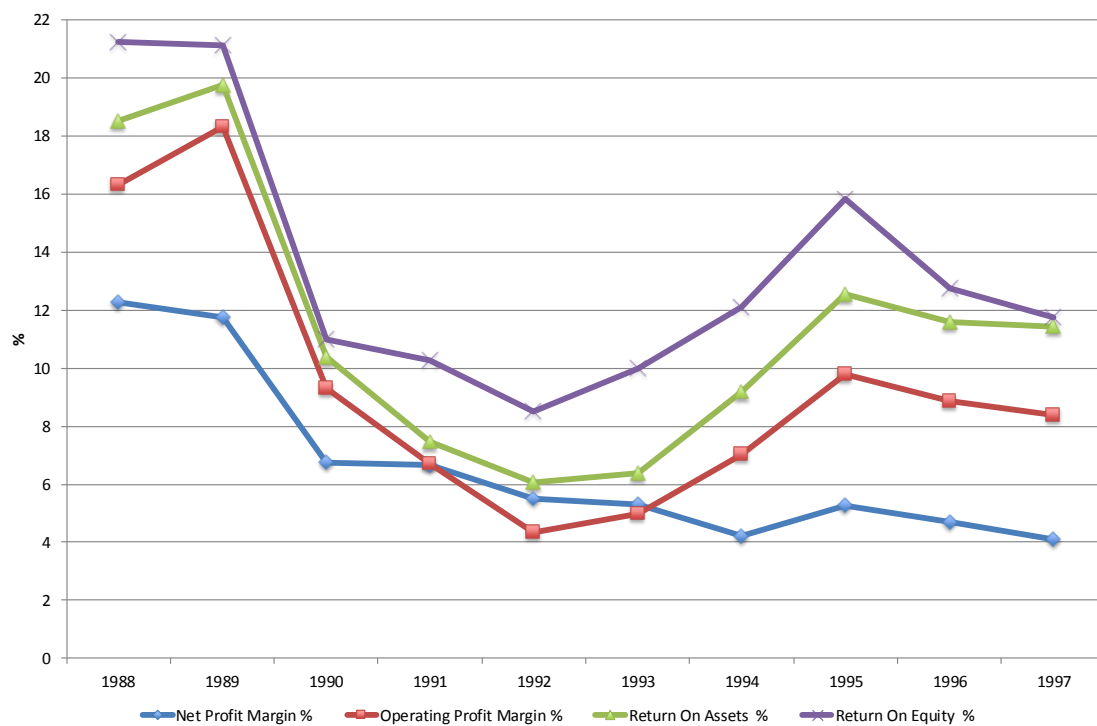
The contradictions between Anglo and AMIC's advocacy of orthodox economic reforms and the implications of these reforms for AMIC's own manufacturing operations, particularly in steel and engineering rapidly became evident. AMIC argued vociferously that the measures proposed in the conglomerates' *Growth for*

All (South Africa Foundation 1996) manifesto should urgently be implemented to establish “an investor-friendly environment” (Anglo American Industrial Corporation 1995: 10). The fiscal deficit needed to be contained but the corporate tax rate should be lowered with the introduction of incentives for capital intensive projects in particular: “South Africa, like emerging economies in South America and Eastern Europe, needs to offer investors something special – whether in the form of tax or other incentives” (Anglo American Industrial Corporation 1995: 11). Social spending on housing, education and health must be kept within the bounds of fiscal discipline but “it is expected that the Reconstruction and Development Programme will have a positive impact” (Anglo American Industrial Corporation 1995: 22). AMIC supported trade liberalisation but found it “inexplicable that the government volunteered concessions on tariffs agreed at GATT without obtaining improved access to foreign markets in return” (Anglo American Industrial Corporation 1995: 12). Anglo and AMIC had been supportive of changes to legislation which allowed the formation of black trade unions to alleviate the difficulties of negotiating with multiple informal worker bodies and a proliferation of wildcat strikes. It expressed broad satisfaction with the emerging labour relations legislative framework: “[t]he draft Labour Relations Bill that has recently been published satisfactorily addresses a number of employers’ concerns in regard to the existing legislation” (Anglo American Industrial Corporation, 1995: 10) yet simultaneously supported the *Growth for All* line on the need for a two-tier labour market.

Reflective of the impact of low public investment and trade liberalisation, AMIC’s net profit margin declined from 12.3% in 1988 to 4.1% in 1997 (Table 6.1) associated with the halving of its Iron, steel and engineering contribution to AMIC’s income between 1990 and 1997 to 20.3% (Figures 6.1 and 6.2). By 1997 the contribution of

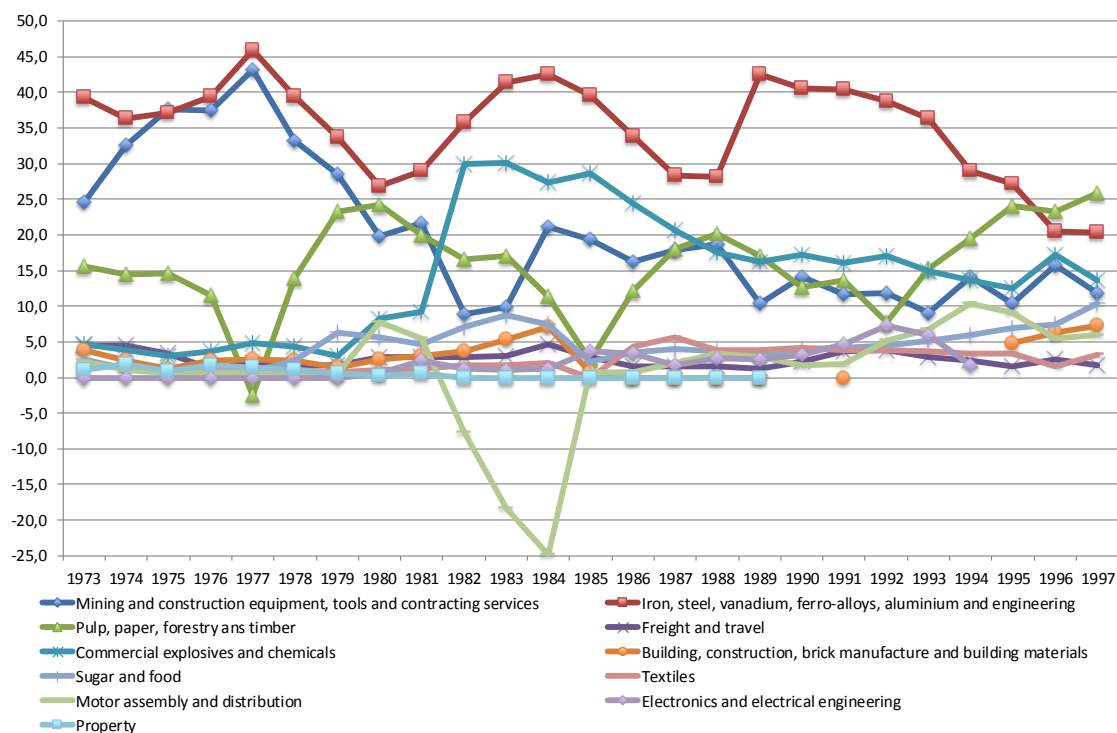
Highveld, Scaw and Boart to AMIC earnings had all experienced substantial declines (Figure 6.3).

Figure 6.1: AMIC profitability measures (%), 1988–1997



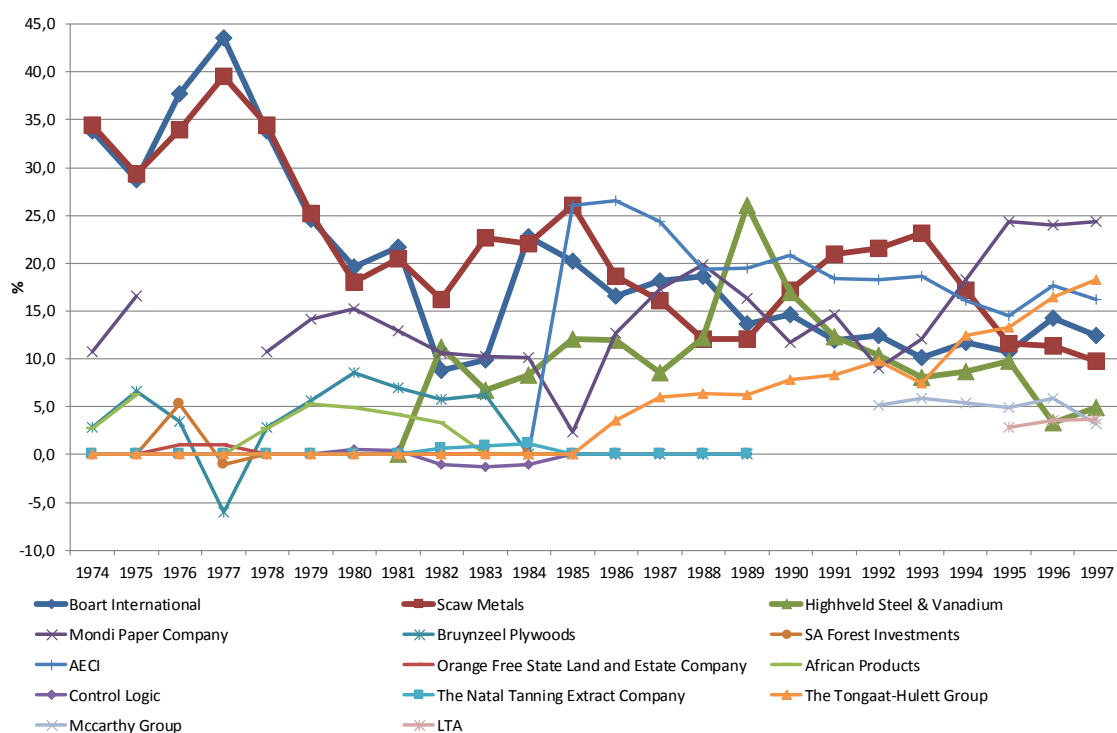
Source: Author's calculations based on Anglo American Industrial Corporation (various years)

Figure 6.2: AMIC earnings by industry group (%), 1973–1997



Source: Author's calculations based on Anglo American Industrial Corporation (various years)

Figure 6.3: AMIC earnings by major company (%), 1973–1997



Source: Author's calculations based on Anglo American Industrial Corporation (various years)

This decline coincided with weak domestic demand for engineering and steel products in a context of low and falling fixed capital formation, increasing trade

liberalisation, the absence of a national strategy to reorient the engineering sector and tepid international steel prices. It also revealed the failure over the 1980s and early 1990s of AMIC to develop any significant diversified manufacturing operations outside of heavy industry, despite a number of attempts to do so. Efforts both at forming joint ventures with foreign OEMs and developing entirely new businesses proved failures, ranging from car alarms to syringes (Anglo American Industrial Corporation various years; Wood 2014). Despite rising calls over 1994 and 1995 from AMIC for labour market deregulation there is little specific indication that the failure to develop diversified capabilities was primarily related to labour costs. Rather AMIC's primary problem was weak domestic demand and its inability to supplement this with exports outside heavy industry (Anglo American Industrial Corporation various years).

Colin Wood, former deputy chairman of AMIC, chairman and LTA and Boart Longyear attributes AMIC's failure to diversify and develop new industrial lines of business to the poor quality of management appointed to AMIC and in turn the manner in which such appointments were made. In contrast to Anglo's mining business which "ran on a highly professional basis" senior positions within Anglo's industrial subsidiaries were often dependant on personal connections with Chairman Harry Oppenheimer (Wood 2014). Whereas in mining Anglo appointed the best executives it could find, the industrial subsidiaries were often chaired by friends of Oppenheimer and "were the kind of people Harry Oppenheimer played tennis with" or had been to Oxford University (as Oppenheimer had) (Wood 2014). Sometimes these positions were a sinecure for Anglo executives who were more engaged in politics than Anglo business, such as Zach de Beer who was for a period the Chairman of AMIC's construction subsidiary LTA (Wood 2014).

As elaborated in Chapter 7 Anglo embarked on a final round of steel expansion in 1991 when Samancor (itself a joint venture between Anglo and Gencor) and Highveld Steel acquired Barlow Rand's Middelburg Steel and Alloys stainless steel operations as the basis for the large-scale Columbus Joint Venture in 1991. The Columbus Joint Venture benefited from a great deal of public support including the 37E tax incentive and the introduction of IDC as a one-third equity partner in 1993.

Under increasing pressure from its parent to raise profitability, AMIC committed to greater capital discipline for projects "in which the group holds a sustainable competitive advantage" (Anglo American Industrial Corporation 1997:12). AMIC anticipated that it would absorb all Anglo's industrial interests. However, as Anglo management prepared for its London listing AMIC itself was reabsorbed into the Anglo group and its assets distributed across various divisions, subsequently to be unbundled.

6.2 Rembrandt's restructuring and transition to Remgro

Since the late 1980s Rembrandt has undergone extensive restructuring in response to shifting political and corporate imperatives. Johann Rupert, son of founder Anton Rupert has been instrumental in setting the terms for Rembrandt's and its successor Remgro's engagement with the new democratic government and institutional investors. This has included ring-fencing lucrative offshore tobacco assets, driving Remgro's shift towards a sectoral focus on financial services, cementing Remgro as an investment holding company without operational activities and shaping Remgro's engagement with Black Economic Empowerment (Rembrandt various years; Remgro various years; Dommissie and Esterhuyse 2009).

6.2.1 Preserving the family silver offshore, moving into finance at home

Johann Rupert, who worked as an investment banker in New York before succeeding his father at the helm of Rembrandt, initiated the 1988 separation of Rembrandt's South African and international interests through the establishment of Swiss-based tobacco and luxury goods group Compagnie Financière Richemont (Richemont) which acquired Rembrandt's international stake in Rothmans International. This split was undertaken to place Rembrandt's most profitable business: tobacco, beyond the reach of a new democratic government and to head off increasing pressure exerted by anti-apartheid activists on London-listed Rothmans International over the direct shareholding of the South African Rembrandt group and the presence of Rupert senior on its board (Dommissie and Esterhuyse 2009). In 1995 Rembrandt and Richemont consolidated their tobacco interests into Rothmans International, which in turn merged with British American Tobacco Plc (BAT) in 1999, creating the world's second largest cigarette group. Rembrandt and Richemont held a one-third and two-third stake respectively in the investment in BAT. As of 2014 Richemont was the second largest luxury group in the world after Moët Hennessy Louis Vuitton (LVMH) (Chabane et al. 2006; Goldstein 2010; Remgro 2015; Zaczekiewicz 2015).

Domestically Johan Rupert was instrumental in the creation of Rand Merchant Bank Holdings (RMBH) in 1985 which in turn became the holding company of Rand Merchant Bank. RMBH expanded into life insurance, acquiring control in 1992 of Momentum Life from ABSA another of the "big four" South African banking groups. Momentum in turn formed what is now the country's largest private health and financial services group Discovery Limited. RMBH also founded what is now one of

the biggest short-term direct insurers: Outsurance. In 1998 RMBH acquired Anglo's financial services business in exchange for Rembrandt's mining assets. RMBH separately listed its joint financial services arm as FirstRand (Chabane et al. 2006; Goldstein 2010; Remgro 2015; RMB Holdings n.d.).

6.2.2 The creation of Remgro, the bargain with institutional investors and the demise of Dorbyl

The 1999 name change from Rembrandt to Remgro ushered in a fundamental restructuring which sought to balance increasing demands to “unlock shareholder value” with preservation of historical Rupert family control. Rembrandt collapsed its four tier pyramid structure into Remgro, focused on established interests in tobacco, financial services, mining and industry and VenFin focused on telecommunication and technology interests with VenFin ultimately reabsorbed into Remgro in 2009. In the process Remgro became “a pure investment holding company” with no operational activities (Remgro 2015).

Effectively a bargain was struck in which the Rupert family retained control of Remgro through retaining 42.6% of voting rights, far higher than its shareholding, in exchange for the delivery of high levels of “shareholder value” to institutional investors. This bargain has involved, in addition to share price growth and payment of dividends, extensive use of the share repurchase mechanism. Thus Remgro has been the third largest user of the mechanism on the JSE between 1999 and 2009, buying back R11.2bn from shareholders (Table 6.1) (Wesson 2015).

Table 6.1: Share repurchases and dividends (R), top 10 and total, 1999-2009

	Company name	Rand value of dividends paid	Company name	Rand value of shares repurchased	Company name	Dividends plus share repurchases
1	Sasol Ltd	44 784 000 000	Sasol Ltd	37 904 300 000	Sasol Ltd	82 688 300 000
2	Telkom SA Ltd	20 313 000 000	MTN Group Ltd	21 226 000 000	MTN Group Ltd	31 782 000 000
3	Remgro Ltd	19 728 000 000	Remgro Ltd	11 138 000 000	Remgro Ltd	30 866 000 000
4	MTN Group Ltd	10 556 000 000	Netcare Ltd	8 959 900 000	Telkom SA Ltd	26 870 030 425
5	Pretoria Portland Cement Company Ltd	8 414 100 000	Telkom SA Ltd	6 557 030 425	Netcare Ltd	12 270 400 000
6	Barloworld Ltd	8 039 000 000	Imperial Holdings Ltd	4 530 000 000	Barloworld Ltd	12 238 000 000
7	The Bidvest Group Ltd	7 677 448 000	Aveng Ltd	4 204 357 873	The Bidvest Group Ltd	11 662 274 532
8	Tiger Brands Ltd	7 322 900 000	Barloworld Ltd	4 199 000 000	Imperial Holdings Ltd	10 036 000 000
9	Imperial Holdings Ltd	5 506 000 000	The Bidvest Group Ltd	3 984 826 532	Pretoria Portland Cement Company Ltd	9 167 100 000
10	Nampak Ltd	4 772 700 000	Woolworths Holdings Ltd	3 677 377 919	Tiger Brands Ltd	8 468 800 000
	Total - Top 10	137 113 148 000		106 380 792 749		236 048 904 957
	TOTAL	247 148 767 838		136 886 511 758		384 035 279 596

Source: Author's calculations, based on Wesson (2015)

As detailed in Chapter 8, this bargain coincides with the period over which Remgro was effectively dismantling Dorbyl, the largest engineering group in South Africa's history, and accelerating the process of "releasing value to shareholders" between 2003 and 2007 from Dorbyl's unbundling. As discussed in detail below Dorbyl's demise reflected the confluence of a number of mutually reinforcing factors: the failure (under Rembrandt ownership) to develop internationally competitive engineering capabilities by the late 1980s; weak public investment expenditure and the failure of RDP social infrastructure expenditure to materialise; the disavowal of the need for any serious national strategy for restructuring engineering; trade liberalisation; managerial ineptness and self-interest; and pressure from increasingly demanding institutional investors to deliver "shareholder value".

6.2.3 Remgro's continued significance in the South African economy and manufacturing sector

Although Remgro's share of JSE stock market capitalisation has fallen significantly from its peak of 15.5% in 1993, in 2014 it accounted for close to 10% of the JSE

(McGregor's various years), the largest single corporate group (as reflected in Table 5.1 above). Taking into consideration the span of Remgro's holdings in South Africa, the dramatic increase in the share of domestic and institutional ownership on the JSE and the declining share of Anglo American in particular, Remgro is certainly the single most important business group in South Africa.

The transition from Rembrandt to Remgro has been represented at face value as an exception to the general trend of an increasing focus on a single "core business", with Remgro continuing to hold stakes across multiple sectors (Chabane et al. 2006; Goldstein 2010). However, this surface appearance masks a decisive shift towards a far greater financial orientation. Remgro's direct investments in banking and insurance account for 48% of its assets with an additional indirect exposure through its investment in Kagiso-Tiso Holdings (Financial Mail 2013; Remgro 2015).

Remgro continues to hold important stakes in manufacturing. These include 78% of poultry-dominated food group RCL Foods, 31% of wine and spirits group Distell, a 26% holding in a joint venture with consumer goods transnational Unilever and 38% of automotive and building glass producer PGSI. They also include the remnants of stakes in former Metkor subsidiaries: 50% of industrial gas producer Air products and 100% of aluminium extruder Wispeco. Other "Industrial" holdings have little to do with manufacturing and include Remgro's 35% stake in Kagiso Tiso Holding (KTH) and a 25% joint venture in petroleum distribution with Total (Remgro 2015). Remgro also has a major interest in private hospital group Mediclinic and investments in logistics group Grindrod, fibre optic cable groups CIV and Seacom, and media and sporting interests. Although Remgro does not disclose

a detailed geographic breakdown of its earnings, however its investments on the rest of the African continent have been a particular area of focus (Remgro 2015).

Rembrandt and Remgro's post-apartheid restructuring is reflective of a broader trend of "unbundling and rebundling" in which South African business groups have shed businesses not deemed part of their core sectoral focus and consolidated ownership and control within core sectors (Chabane et al. 2006). Rembrandt and Remgro have been particularly active on the "rebundling" side of this equation, consolidating control in sectors in which rents can be secured through a variety of mechanisms. This has included securing control over one of the four largest banking groups Rand Merchant Bank. Rembrandt, as the second largest member of the South Africa Foundation, championed the widespread post-apartheid trade liberalisation that has taken place across both manufacturing and agriculture. However, the two most significant sectors in which Remgro retains strong interests in agriculture are those that have managed to retain significant tariff protection. Poultry-dominated food producer RCL displays both a high degree of horizontal market concentration and vertical integration along the poultry value chain, holding an approximate 46% share of the domestic poultry market (Ncube et al. 2016). Producers in the poultry sector have managed to retain significant post-apartheid tariff protection and secured anti-dumping duties on poultry imports. Anti-dumping duties on imports of poultry have in turn drawn South Africa into a damaging trade dispute with the United States, which posing risks to market access for exports of products ranging from automobiles to citrus under the Africa Growth and Opportunity Act (AGOA) (Sender and Cramer n.d.; Chipanda 2016). A second area of agriculture that retains significant protection is sugar, with Remgro having consolidated its long-standing holdings in TSB Sugar into RCL in 2013. Wine and spirits producer Distell controls

around 21% of the domestic spirits market in a joint venture with SABMiller, while Distell and KWV have a joint market share in excess of 70% the domestic wine market (Shand 2016). Remgro's joint venture with consumer goods transnational Unilever comes with exclusive rights for domestic production and distribution of a range of Unilever's brands. In sectors in which it has not been possible for Remgro to consolidate or secure control it has generally chosen to dispose of its holding. As discussed in detail in Chapter 9, the manner in which Remgro exited the engineering sector, in which it was the largest single investor emerging out of the apartheid period, was undertaken in ways which destroyed industrial capabilities.

6.2.4 Remgro's engagement with Black Economic Empowerment

Remgro has had to navigate mounting pressures to introduce BEE partners in its various investments, particularly in sectors dependant on government licencing such as finance and liquid fuels. The manner in which Remgro has engaged with BEE reflects apparent continuity with Rembrandt's long-standing practice of "partnership" in which it forged low-key joint ventures with domestic interests in a range of countries formally antagonistic to the apartheid state, that allowed it to operate and grow its international tobacco empire. Remgro has carefully cultivated a range of, often politically connected, individuals and consortia as BEE partners. This has included the Royal Bafokeng Holdings (RBH) in RMBH and FirstRand, Calulo (Total and Grindrod), Solethu Investments (Grindrod and Racec Limited), Reatile (Air Products). BEE deals have involved prominent ANC members such as Tokyo Sexwale (Transhex) and Mathews Phosa (RCL, Mediclinic). Mediclinic includes amongst its BEE beneficiaries Mamphela Ramphele's and Hlumelo Biko, respectively partner and son of murdered anti-apartheid activist Steve Biko.

6.3 Conclusions

This chapter describes the post-apartheid restructuring of South Africa's two largest conglomerates in the context of policies and institutions they had been so instrumental in influencing, and the consequences for post-apartheid industrialisation. Restructuring occurred in the context of increasing exposure to the expectations of shareholders to raise returns, the absence of a national strategy for steel and engineering reorientation and development, a legacy of managerial weaknesses in effecting engineering development, and the negative impact of orthodox policies on engineering in particular.

Anglo, following its listing on the LSE, has been most directly exposed to the incessant demand of institutional investors to raise its share price and shareholder returns, predicated on the idea that to do so required Anglo to become solely focused not only on mining but a limited range of mineral commodities. This prompted multiple rounds of restructuring and unbundling of "non-core" businesses. Rather than being used as a vehicle to deepen industrialisation, its longstanding industrial subsidiary AMIC was reabsorbed into Anglo, setting the stage for the unbundling of its steel and engineering businesses. Even assessed on the narrow terms of its financial performance Anglo has lagged its global mining peers and is a shell of its former self in the aftermath of the global financial crisis. As reflected in the discussion of the battle over Sishen iron ore rents in the following chapter, BEE which Anglo was so instrumental in introducing as a legitimisation mechanism, has morphed a form which is now an impediment to Anglo's South African mining operations.

Financially Rembrandt and successor Remgro have weathered the post-apartheid period far more successfully than Anglo. Remgro's shift to a "pure investment company" has seen it take on a far greater financial orientation and is withdrawal from manufacturing activities over which it cannot secure rents of a variety of forms. The early offshore ring-fencing of its lucrative tobacco and luxury goods holdings have meant they have played no meaningful role in post-apartheid industrialisation. A large proportion of Remgro's earnings are based on its direct and indirect exposure to financial sector. Reflective of post-apartheid corporate "unbundling and rebundling" Remgro has consolidated control in sectors where rents can be preserved, including remaining pockets of tariff protection, and shed non-financial businesses over which it cannot exert control, as reflected by the discussion in Chapter 8 of its destructive unbundling of the country's largest engineering group. In the process of its restructuring Remgro has skilfully cultivated politically connected and otherwise influential BEE shareholders, and its investment holding company structure has served as an influential model for emerging BEE investment groups.

Chapter Seven

Corporate and sectoral restructuring of the steel industry

South Africa's GEAR policy framework envisaged the role of foreign direct investment and ownership in the post-apartheid economy in the following terms:

Foreign direct investment plays an important part in encouraging growth in several ways:

- modern technology is frequently transferred through investment flows;
- skills, management expertise and high level training accompany international investment projects;
- access to international sources of finance is enhanced; and
- access to global markets is facilitated.

(Department of Finance 1996: Appendix 12)

This chapter explores the consequences of the shift of South Africa's largest steel producer from public to private ownership and subsequently to foreign ownership and control by large transnational corporations, especially for the downstream steel-consuming engineering sectors. In particular it assesses the extent to which the benign outcomes associated with foreign ownership, in conjunction with other orthodox policy reforms, have transpired in the South African steel sector.

Section 7.1 locates the evolution of the post-apartheid iron ore and steel sectors within a process of rising global concentration. It highlights the implications of the debt-fuelled consolidation process from which ArcelorMittal emerged as the world's largest steel group, as South Africa's largest steel plants shifted to transnational

ownership. Section 7.2 describes the restructuring of Iscor amid rising post-privatisation inefficiencies and concomitant pressure to “unlock value” by unbundling its mining assets and introducing a foreign equity partner into its steel operations. Section 7.3 demonstrates how the transition from Iscor to subsidiary of ArcelorMittal has been marked by the extraction of a range of rents derived *inter alia* from monopolistic steel pricing and access to concessional iron ore supply amid underinvestment and rising inefficiencies. Section 7.4 discusses the three-way battle for control over lucrative Sishen iron ore rents as reflective of broader fault-lines in South Africa’s political economy. Section 7.5 briefly deals with Anglo’s unbundling of Highveld to foreign ownership under Evraz, reflecting similar patterns of underinvestment and rent extraction to Iscor’s transition. 7.6 deals briefly with the recent crisis in the South African steel industry as rising inefficiencies have collided with falling steel prices. Section 7 assesses the extent to which the beneficial outcomes of foreign ownership assumed by orthodox scholarship and policy makers have materialised in the South African steel sector.

7.1 Global restructuring of the steel and iron ore industries

The global steel sector has gone through three distinct phases since the Second World War with an associated impact on international steel demand and prices (Jourdan 2012). The first phase spanning roughly 1950 to 1970 witnessed relatively high steel prices as the advanced capitalist economies engaged in post-war rebuilding and expansion of their infrastructure and manufacturing industries. Despite a low share of global population these economies represented the bulk of global purchasing power for iron ore and steel. A second phase from around 1970 to 2000 was characterised by considerably weaker demand for commodities like

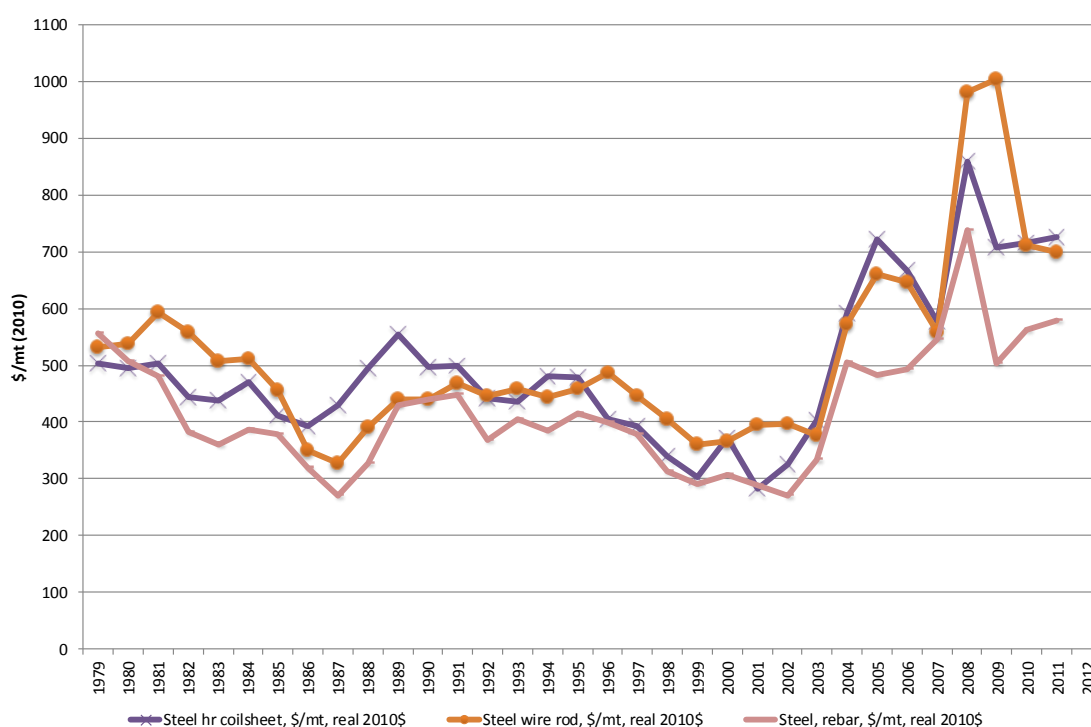
iron and steel, with the plateauing of demand in advanced capitalist countries, representing a minority of the global population, of infrastructure installation and the onset of deindustrialisation with a shift to far greater services-orientation. Despite the very rapid growth of the first- and second-tier east Asian Newly Industrialised Countries (NICs), their relatively small collective share of world population did not dramatically raise global demand for iron ore and steel over this period. The third phase dating from 2000, until cut short by the global financial crisis of 2008, has been characterised by more rapid industrialisation of some large and populous developing countries since the early 1990s, overwhelmingly dominated by China. China has disproportionately accounted both for the increase in global demand, and installation of the world's new steel production capacity. The locus of global steel production thus shifted decisively from the "Triad" economies of the US, Europe and Japan to China. Between 1992 and 2014 the "Triad's" share of global steel production fell from 30% to 14% while China's share increased from 11% to 49%! (World Steel Association, various years). Steady consolidation of the global steel industry outside of China during the 1990s gave way to a far more intense process of mergers and acquisitions (M&As) from the early 2000s, with privatisation playing a significant role.

[W]ith the turn of the century, world steel markets began to reshape based on globalization. Energized by industry liberalization and privatization in many parts of the world, and supported by information technology and managerial innovations that increased spans of control, managerial agency manifested itself in the form of aggressive M&A to create the first large-scale steel MNCs.

(Giarratani et al. 2012: 30)

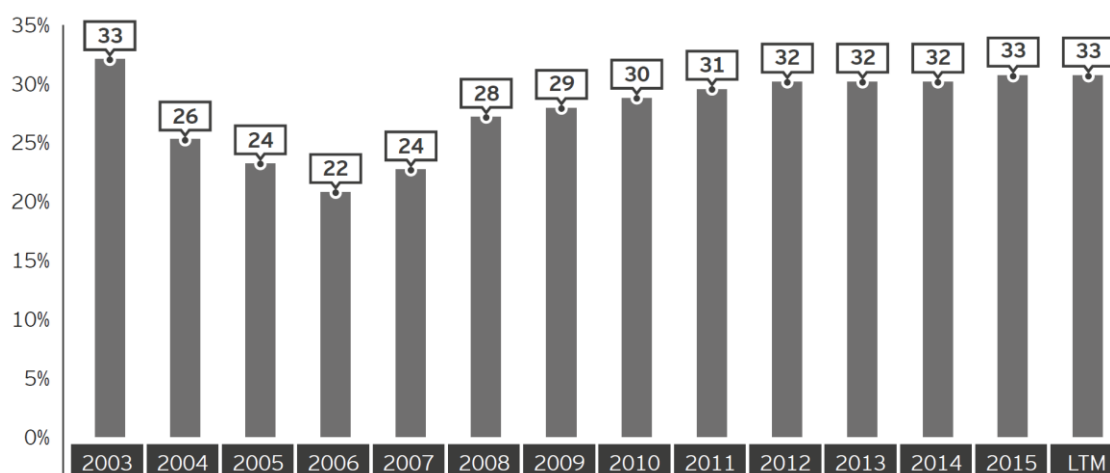
These developments have been consistent with the global big business revolution (GBBR) phenomenon, underway across many sectors of the global economy. This process has been fuelled by a confluence of liberalisation of trade and capital flows, privatisation of formerly state-owned steel plants, and the preference of institutional investors for a narrow sectoral focus of business groups and large pools of global debt financing (Nolan and Zhang 2008; Giarratani et al. 2012). Rapidly rising steel prices from 2000 (Figure 7.1) accelerated a process of debt-fuelled acquisitions in the global steel sector. The global value of M&A deals in the steel industry rose dramatically from \$6.9bn in 2003 to a peak of \$78.6 in 2006 declining thereafter to \$11.3bn in 2011 (Giarratani et al. 2012). The 2006 peak reflected the mega-merger of the world's two largest steel groups: Mittal Steel and Arcelor to form ArcelorMittal, with other groups compelled to follow suit. By 2011 the top 20 steelmakers had debt to equity ratios averaging 88% compared with average levels of 55% amongst the top 20 companies within the similarly capital-intensive oil and gas industry (Ernest & Young 2016). High levels of debt relative to assets had been falling amongst the top 30 steel groups, leading up the global financial crisis in 2008. However, debt levels rose again as steel demand and prices fell after the onset of the crisis (Figure 7.2) A strategic priority of highly indebted groups like ArcelorMittal and Evraz has therefore been to find mechanisms to service and reduce high levels of debt under far weaker post-crisis product market conditions.

Figure 7.1: Steel prices (real \$ 2010/mt), hot rolled coil sheet, wire rod and rebar, 1970–2013



Source: Author's calculations based on World Development Indicators Global Economic Monitor (GEM) Commodities database (World Bank n.d.-c).

Figure 7.2: Total debt as a percentage of total company assets (average of the top 30 steel companies) (%), 2003-2015



Source: Ernest & Young (2016) based on data from S&P Capital IQ and EY analysis.

7.1.1 The rise of ArcelorMittal

The origins of Mittal Steel and ultimately ArcelorMittal lie in the establishment in 1979 by Indian national Lakshmi Mittal of a small steel plant in Indonesia called Ispat. A decade later Ispat embarked on a trajectory of enormous global expansion, which has taken place virtually exclusively through acquisition, to become the world's second largest steel group by 2005. Ispat's growth was predicated on the acquisition of recently privatised steel plants in developing and transition economies as well as of smaller European and North American operations (Mathews 2002; Murphy 2008; ArcelorMittal various years).³¹ In 2001 Mittal Steel (then named LNM) took a large minority stake in Iscor followed by the acquisition of a majority stake in 2004. By 2005 it had to become the second largest steel group in the world and in 2006 Mittal Steel launched a successful hostile bid for its next biggest rival Arcelor. Arcelor had itself been recently established and grown through a recent spate of mergers and acquisitions and was created in 2002 through a merger of three major European steel companies: Arbed (Luxembourg), Aceralia (Spain) and Usinor (France) (ArcelorMittal various years).³² Mittal Steel's successful takeover of Arcelor created the largest steel group in the world in 2006, ArcelorMittal (Table 7.1).

³¹ After establishing operations in Trinidad and Tobago in 1989 major acquisitions included Siderurgica del Balsas (Mexico) in 1992, Sidbec (Canada) in 1994, Karmet (Kazakhstan) and Hamburger Stahlwerke (Germany) in 1995, Thyssen Duisburg (Germany) in 1997, Inland Steel (US) in 1998, Unimetal (France) in 1999, Sidex (Romania) and Annaba (Algeria) in 2001, Nova Hut (Czech Republic) in 2003, BH Steel (Bosnia), Balkan Steel (Macedonia), PHS (Poland) in 2004, ISG (US), Kryvorizhstal (Ukraine), and a significant stake in Hunan Valin Steel (China) in 2005, and Stelco Inc. subsidiaries (Canada) in 2006 (ArcelorMittal n.d.).

³² This brought a number of steel facilities under Arcelor's umbrella in a range of countries including Belgium, Germany, Italy, Brazil and Argentina. Arcelor in turn acquired a controlling interest in Companhia Siderurgica Tubarao (now a part of ArcelorMittal Brasil) in 2004, Huta Warszawa (Poland) in 2005, a controlling interest in Sonasid (Morocco), as well as Dofasco (Canada) in 2006 (ArcelorMittal n.d.).

Table 7.1: World's 50 largest steel-producing companies (tonnage), 2015

Rank	Company	Tonnage 2015	Rank	Company	Tonnage 2015
1	ArcelorMittal	97.136	26	Steel Authority of India Ltd. (SAIL)	14.339
2	Hesteel Group	47.745	27	IMIDRO	14.105
3	Nippon Steel and Sumitomo Metal Corporation (NSSMC)	46.374	28	Rizhao Steel	13.999
4	POSCO	41.975	29	Fangda Steel	13.214
5	Baosteel Group	34.938	30	JSW Steel Limited	12.42
6	Shagang Group	34.214	31	Magnitogorsk Iron & Steel Works (MMK)	12.236
7	Ansteel Group	32.502	32	Baotou Steel	11.863
8	JFE Steel Corporation	29.825	33	Severstal	11.451
9	Shougang Group	28.553	34	Jingye Steel	11.317
10	Tata Steel Group	26.314	35	Liuzhou Steel (part of Wuhan Steel Group until 2014)	10.827
11	Wuhan Steel Group	25.776	36	Anyang Steel	10.74
12	Shandong Steel Group	21.692	37	Zongheng Steel	10.38
13	HYUNDAI Steel Company	20.481	38	Taiyuan Steel	10.256
14	Nucor Corporation	19.624	39	Jinxi Steel (also known as China Oriental, partly owned by ArcelorMittal)	9.768
15	Maanshan Steel	18.82	40	Metinvest Holding LLC	9.654
16	thyssenkrupp AG	17.339	41	Sanming Steel	9.575
17	Gerdau S.A.	17.033	42	Zenith Steel	9.082
18	Tianjin Bohai Steel	16.269	43	ERDEMIR Group	8.93
19	Novolipetsk Steel (NLMK)	16.049	44	Xinyu Steel	8.644
20	Jianlong Group	15.141	45	Nanjing Steel	8.59
21	Benxi Steel	14.991	46	Techint Group	8.4
22	Valin Group	14.874	47	Guofeng Steel	8.292
23	China Steel Corporation (CSC)	14.821	48	voestalpine Group	7.762
24	United States Steel Corporation	14.521	49	Jiuquan Steel	7.685
25	EVRAZ	14.35	50	CITIC Pacific	7.612

Source: World Steel Association (n.d.)

Notwithstanding the hyperbolic characterisation of ArcelorMittal as a “Dragon Multinational”, a term coined by Mathews (2002) to describe high growth transnational corporations that have emerged out of developing countries, ArcelorMittal is not a developing country corporation. It is domiciled in the low taxation jurisdiction of Luxembourg and headquartered in London, and has made limited new investments in its developing country operations, as elaborated below.

The ArcelorMittal group contains two broad categories of steel plants, distinguished both by geographic location and technology, with a differentiated strategic approach to each. The first is comprised chiefly of formerly state-owned plants in developing and transition economies based on older technologies and less sophisticated products. The second comprise more modern plants based predominantly in Europe and North America producing more sophisticated products (ArcelorMittal various years). ArcelorMittal's research and development expenditure is concentrated on the latter with the single largest area of technological effort around product development related to the automotive industry. Ten of ArcelorMittal's 11 R&D laboratories are located in Western Europe and North America (one is in the Czech Republic) with 55% of R&D expenditure on automotive steel. Resident engineers are concentrated in industrialised markets: North America (14), Germany (6), France (3) and Japan (3). The UK, Spain, Italy, Brazil, India, China and South Korea each have one resident engineer. South Africa has none (ArcelorMittal 2013). The need to sustain R&D expenditure and technological effort in a range of advanced economy plants is in turn driven by increasingly stringent emissions limits in the United States and the European Union and consequent competition with the aluminium sector to develop lighter and stronger metals to lower vehicle weight without compromising safety (Wright 2014).

By contrast developing and transition country plants have largely been focused by ArcelorMittal on commodity steel products, with minimum investment and numerous plant failures. Underinvestment and multiple plant failures at ArcelorMittal's South African operations are discussed in detail in Section 7.3.2 below, but are by no means unique. ArcelorMittal's Kazakhstan operations have

been the site of a series of mining accidents with large-scale fatalities.³³ There has been a reported legacy of underinvestment in environmental management in South Africa, Bosnia-Herzegovina, Czech Republic, Kazakhstan, and Ukraine (Bankwatch 2009). Thus the role of (often formerly state-owned) plants in developing and transition economies within ArcelorMittal's global strategy appears to be to secure as much free cash flow to the parent to assist in debt service, while making as little investment as possible.

7.1.2 Restructuring of the global iron ore industry

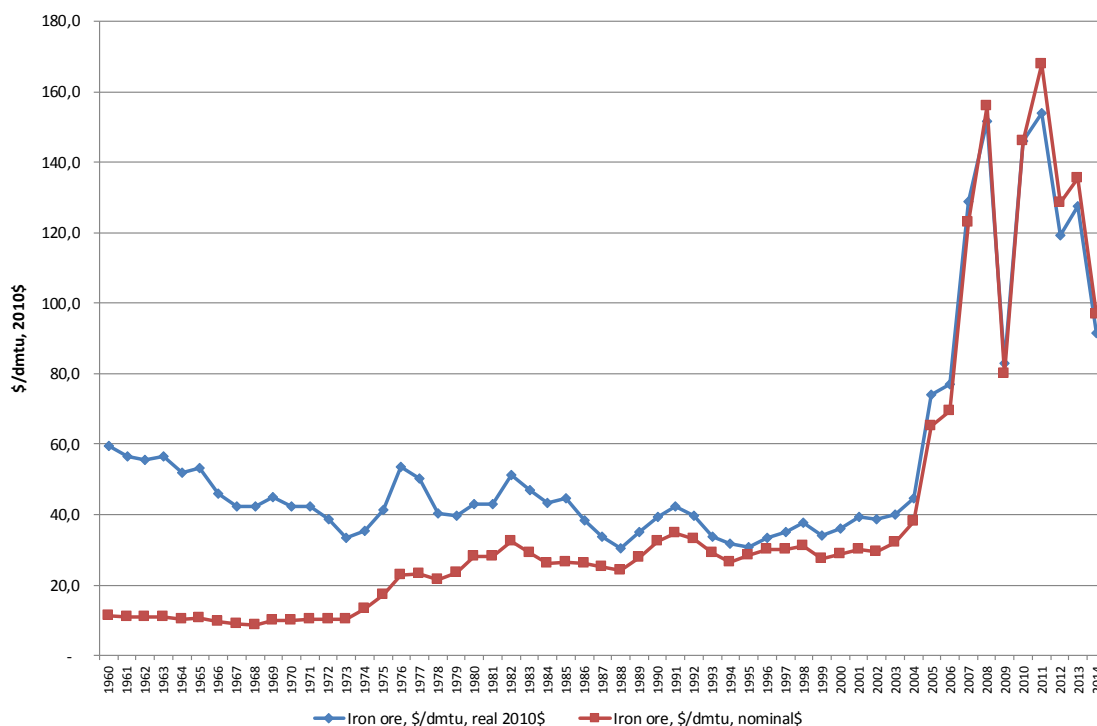
The global iron ore industry has demonstrated an even more pronounced process of consolidation. This is in significant part due to the fact that four countries dominate global iron ore production: Australia, China, Brazil and India, collectively accounting for 73% of global production of 1,923Mt in 2011. Russia accounted for an additional 5.4% despite having 17.5% of global reserves. South Africa accounted for 2.8% world iron ore with reserves of 0.8% (Jourdan 2012).

Consolidation of global iron ore production and exports has culminated in the predominance of three companies: BHP Billiton, Vale and Rio Tinto (Jourdan 2012). Together with Anglo American and Fortescue Metals Group, they form the "Big Five" of mining companies in the iron ore sector (Anglo American 2014). Within South Africa, Anglo American via its subsidiary Kumba Iron Ore (KIO), comprising the former iron ore mining assets of Iscor, is by far the largest iron ore miner. When iron

³³ In Kazakhstan 23 miners were killed in a methane coal blast in ArcelorMittal's Abaiskaya coal mine in 2008. 41 miners were killed in a methane explosion at its Temirtau mine in 2006, the worst in Kazakh history. In 2004 23 miners died in a gas blast at ArcelorMittal's Shakhtinskaya mine (Industrial 2008).

ore prices increased dramatically since 2000 (Figure 7.3) these operations have proved extremely lucrative, triggering a process of intense contestation over who should benefit from these mineral rents, discussed in Section 7.4 below. It is argued that this contestation reflected conflicting strategies of accumulation, namely whether these rents should continue to accrue narrowly to one or other set of formerly South African internationalised interests (either Anglo or ArcelorMittal), domestic politically-connected Black Economic Empowerment interests or be deployed to advance South African industrialisation.

Figure 7.3: Iron ore (real 2010 and nominal \$/dmu), 1960–2014



Source: World Bank Development Indicators, Global Economic Monitor (GEM) Commodities (World Bank n.d.-c).

Note: DMU refers to dry metric tonne units which is a measure that standardises for the iron (Fe) content of dry iron ore.

7.2 The privatisation of Iscor

As reflected in Chapter 3, Iscor's privatisation in 1989 reflected the culmination of efforts by its directors and management to secure increasing autonomy from the

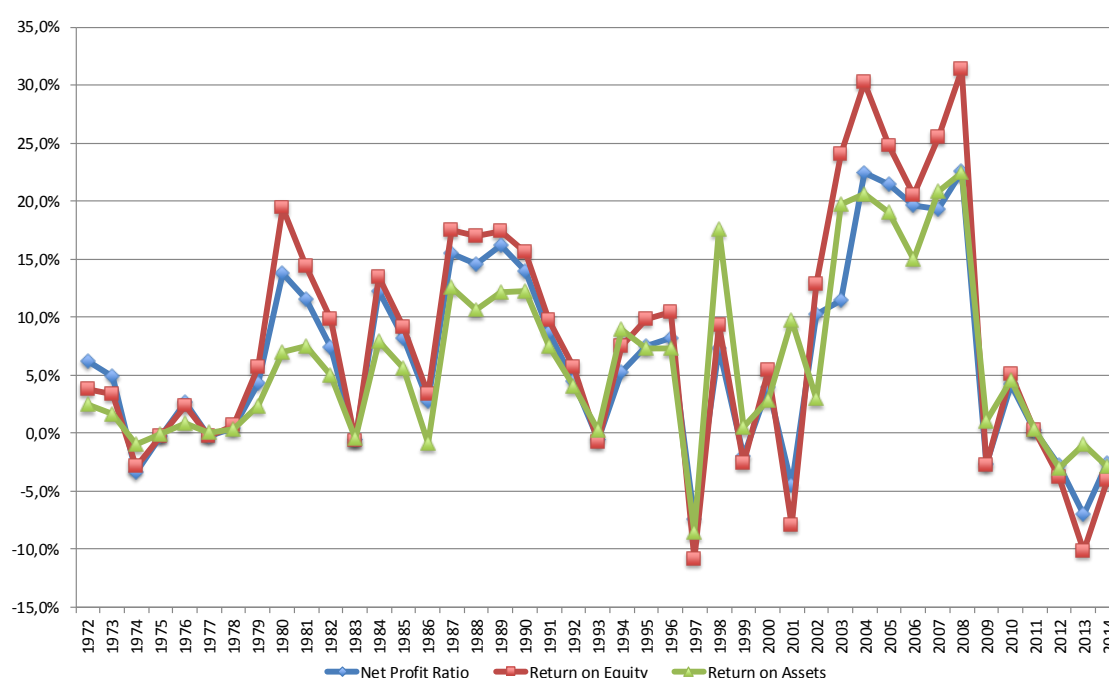
state who had been advocating its own privatisation from the early 1980s (Iscor various years) Anticipating expectations of future private institutional investors Iscor committed itself to limiting its debt to equity ratio, resumed the payment of dividends in 1986 (for the first time since 1972) and announced a dividend policy of one third of profits in 1989. In 1988 it hastily abandoned its long-standing policy making annual provisions for capital replacement, which artificially served to boost its apparent profitability. Iscor management positioned themselves to benefit handsomely from a public listing through allocation of shares to themselves at nominal prices (Iscor various years).

The major economic justifications for privatisation, as reflected variously in the outgoing government's Normative Economic Model (Central Economic Advisory Service 1993), the conglomerates' *Growth for All* (South Africa Foundation 1996) and the new government's GEAR (Department of Finance 1996) included financial sustainability; increased managerial and operational efficiencies and technological upgrading; access to capital for net new investment; and a reduction of claims on the fiscus for funding and lower government debt. There was a recognition that the privatisation of a public natural monopoly required regulatory mechanisms to prevent abuse of dominance. Trade liberalisation and competition policy were meant to be the market mechanism to discipline such abuse (Department of Finance 1996).

Figure 7.4 illustrates that Iscor was profitable for most of the years of the decade 1978 to 1988, notwithstanding softening global steel prices, weakening domestic demand and the introduction of sanctions on South Africa by the United States in 1986. Losses in 1983 and 1986 coincided with the 1982/3 and 1985/6 recessions.

It had reduced its debt ratio from the unmanageable levels of the 1970s down to 29% by 1989 (Iscor 1989). Thus Iscor did not appear to be financially unsustainable leading up to privatisation. Furthermore, because McGregor's BFA (n.d.) data is compiled using published financials, pre-privatisation profit levels are probably understated because they include the provision for investment that was removed immediately prior to privatisation.

Figure 7.4: Iscor/AMSA profit ratios (%), 1972–2014



Source: Author's calculations based on McGregor's BFA (n.d.).

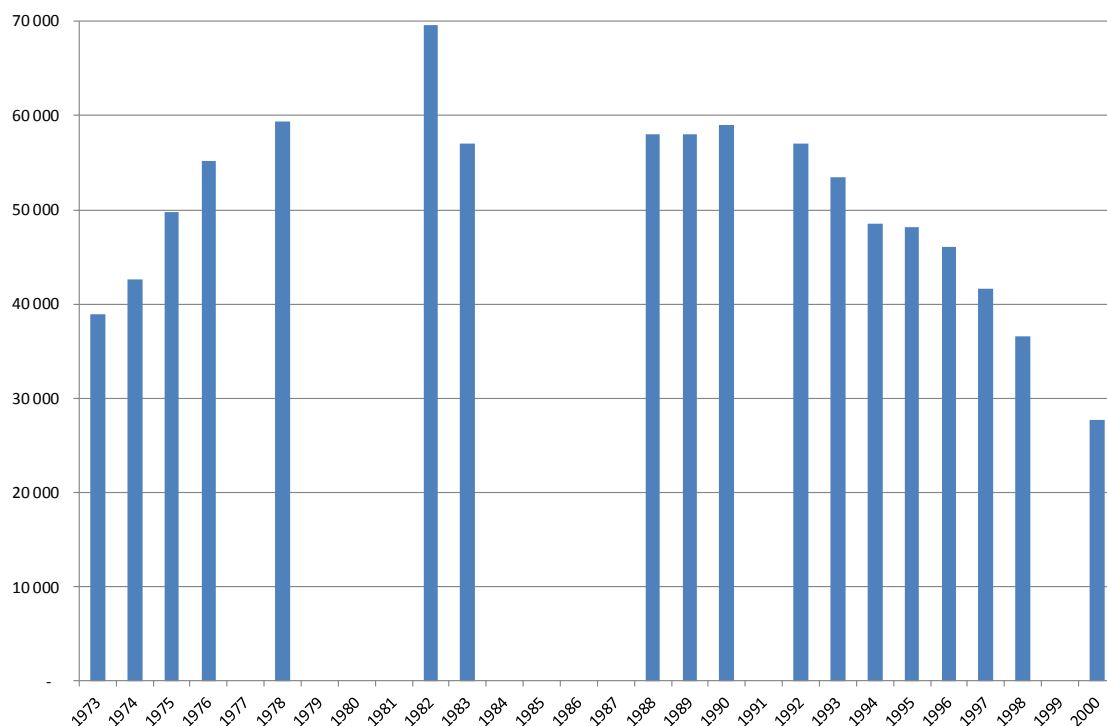
Frequent arguments made in favour of privatisation include that management is incentivised to reduce costs (often through reductions of the workforce) and to improve quality and productivity, were indeed made in the case of Iscor (Iscor various years; Industrial Development Corporation 2000; Roberts & Rustonjee 2009). Iscor embarked on a programme of massive job cuts immediately after privatisation (Roberts and Rustonjee 2009; Iscor various years). As reflected in Figure 7.5 Iscor cut its workforce, including both its mining and steel-making operations, from 58,000 in 1989 to 48,506 in 1994 with employment slashed further

to 27,700 by 2000. An ex-post assessment by Iscor itself in 2000, however, indicates that job reduction appears to have been its *only* and an unsuccessful strategy for lowering costs and raising efficiencies. This assessment identified two phases of restructuring that Iscor had fully or partially passed through between 1994 and 2000. The first phase was a period of "downsizing" of "headcount" between 1994 and 2000. The second phase, which *only commenced in 2000*, was aimed at benchmarking its operations against world best-practice and the reduction of "compressible costs" by 40% while a third phase, *not yet underway*, was aimed at stabilising steel production at its Saldanha and Vanderbijl plants (Iscor 2001).

A number of indicators suggest that, rather than increasing efficiencies Iscor's employment retrenchment programme in fact coincided with a substantial deterioration in efficiencies. Fewer than 40% of deliveries were met on time in the mid-1990s and as much as 15% of deliveries rejected on quality grounds (Industrial Development Corporation 2000). Major downstream customers of Iscor report being negatively impacted by a rapid deterioration in Iscor steel quality and service over the period immediately after privatisation the early 1990s. Former Boart Longyear Chair Colin Wood recounted how in the early 1990s Iscor lost "a huge number of their senior executives and a huge amount of expertise". Boart was negatively impacted due to the dramatic deterioration in the quality of the steel rod supplied to it by Iscor which resulted in a considerable loss of market share in drill rods (Wood 2014). Similar sentiments were expressed by a former director of Dorbyl (Anonymous 2015). Profitability also declined dramatically between 1989 and 1993. Although this occurred over a period of weakening international steel prices, it is also the period over which Iscor began to increasingly exert its domestic pricing power as outlined below. Although tariffs were reduced from 30% in 1994

to 5% in 1996 this was offset by Iscor's implementation of import parity pricing, that is the inclusion of notional transport and logistics costs a customer would incur if they were to turn to imports, as elaborated in Section 7.3.1 below.

Figure 7.5: Iscor employment 1973–2000 (including both mining and steel making operations)



Source: Author's calculations based on Iscor (various years)

Similarly to other steel and engineering groups AMIC and Dorbyl, Iscor in 1994 expressed optimism that the Reconstruction and Development Programme (RDP) would stimulate domestic demand “in favour of those depressed sectors which now require special attention especially in the socio-economic field, with housing a top priority” (Iscor 1994: 10). However by 1996 it took the view that it had become “increasingly clear that the RDP would not generate a surge in demand for infrastructural materials; the realities of the South African economy simply cannot support the country's dreams of large-scale development at this stage” (Iscor 1996: 10).

Following its privatisation, Iscor, similarly to private conglomerates like Anglo and Gencor, expressed its ambitions to internationalise as a major global player in the steel and iron ore market. With an eye to raising foreign capital it established a US depository receipt programme. Iscor's mining division began to make acquisitions, predominantly in Australia and on the rest of the African continent. Iscor began to report its relative international rankings on the International Iron and Steel Institute (IISI) list of the largest global steel plants as well as amongst Forbes 500 metals companies (Iscor various years).

In the context of weak global steel prices, anaemic domestic demand, declining profitability and rising inefficiencies following privatisation, the decision by Iscor to construct a new integrated plant at Saldanha, which came into production in 1996 appears commercially unjustified. Together with the co-located investment by Duferco for further processing of its output to cold rolled coil, the Saldanha plant was predicated virtually entirely on export market sales. The decision thus appears to reflect a combination of managerial hubris, the desire to achieve rapid internationalised growth as a private entity beyond the easy control of a post-apartheid state, while simultaneously drawing on generous public support mechanisms to do so (including the 37E tax incentive and IDC financing). As cost and time over-runs became manifest, rather than catapulting Iscor into the global big league its Saldanha expansion increasingly became an albatross around its neck. Much of the risk and burden of project cost escalations and early losses fell on IDC as a 50% equity partner in the project.

In this context a new management move became an attractive proposition: the unbundling of Iscor's mining businesses including its increasingly profitable Sishen

iron ore operations, combined with the introduction of foreign ownership into its steel operations. In its early years the Sishen mining project – the largest of Iscor’s iron ore mines – had been plagued by low returns due to high capital costs and weak global iron ore prices. However, China's growing industrialisation drive began to transform iron ore from a "dog" to a "cash cow" commodity with prices rising from the mid-1990s, as reflected in Figure 7.3 above. The profitability of Iscor's mining division began to improve and outstrip that of the steel division as demand for iron ore increased. Iscor made its first iron ore shipment to China in 1989. In 1994 it established an office in Beijing and co-invested in a dedicated iron-ore stockpile handling facility in the Port of Qianwan, in Qingdao (Iscor 1994).

7.3 The transition from Iscor to ArcelorMittal South Africa

Unbundling of Iscor’s mining and steel-making operations was justified by Iscor management on the grounds of "unlocking shareholder value" and actively championed by Saldanha’s other major shareholder, the IDC. With Iscor management grappling with the low profitability of the steel operation and technical problems with Saldanha, introduction of the LNM (Lakshmi N Mittal) Group as shareholder and foreign technology partner was argued, echoing the case for foreign ownership made in GEAR at the start of this Chapter, to be beneficial on two grounds. First, Iscor would benefit from participation in the global consolidation of the steel industry that was underway, of which LNM was becoming an increasingly important player. Second, LNM would provide “world-class” technical and managerial know-how to improve operational efficiencies, not least at the troubled Saldanha operation (Industrial Development Corporation 2002; Iscor 2001).

Then Minister of Trade and Industry, Alec Erwin, gave the go-ahead for the unbundling subject to only two conditions. First that Saldanha would be refinanced and Iscor would take over IDC's 50% share in it. Second that Iscor retain effective ownership of its iron-ore requirements to support a competitive steel industry, albeit with no mechanism for passing the benefits of this arrangement on to downstream steel-consuming sectors to ensure their competitiveness. Iron ore supply was embodied in a 25 year supply agreement between the new mining entity, which became Kumba Iron Ore (KIO), and Iscor now comprising only steelmaking operations. KIO was obliged to supply Iscor with the bulk of its iron ore requirements: 6.25mtpa on cost-plus 3% terms (Zondo 2011). Iscor also had rights to a portion of any future expansion of the Sishen mine. IDC remained a minority shareholder in Iscor and continued provided further indirect support to the Saldanha expansion as 50% joint venture partner in a new co-located investment by Duferco that would purchase hot rolled coil from Saldanha and process it into cold rolled coil exclusively for the export market.

Iskor's unbundling intersected with Anglo's restructuring as the latter came under increasing pressure by international institutional investors on the London Stock Exchange to focus on its "core business" of mining. Despite an initial attempt to use the unbundling to promote BEE (with Avmin and African Rainbow Minerals briefly holding a 13% share), Anglo acquired the mining operations of Iscor. This new mining company was named Kumba Resources and itself was unbundled in 2006 with Anglo retaining Kumba Iron Ore (KIO) and Kumba Resources together with its remaining coal, zinc, mineral sands and industrial minerals assets merging with Eyesizwe Coal to form Exxaro. Notably the former head of Iscor's mining division Constantinus "Con" Fauconier, became the first CEO of Kumba Resources

(ArcelorMittal South Africa various years; Anglo American various years; Iscor various years).

LNМ committed to invest at least \$75m into Iscor, now comprising only its steel-making operations, and entered into a business assistance agreement (BAA) with Iscor in terms of which it committed to reduce Iscor's operating costs by R700m over three years, with remuneration redeemable partly in cash and partly through the issue to LNМ of up to 10% of Iscor's shares. By 2004 LNМ had raised its stake in Iscor to 47% and sought majority shareholding by exercising its option to acquire the 10% arising from the BAA proceeds. Mirroring developments with Mittal's international consolidation Iscor's name was changed to Mittal Steel South Africa in 2004 and then ArcelorMittal South Africa in 2007 (ArcelorMittal South Africa, n.d.)

In 2004 the Competition Tribunal approved the merger between LNМ Holdings and Iscor (Competition Tribunal 2004). Indicative both of the limited powers embodied in the Competition Act to deal with pre-existing market structures and its own cautiousness the Tribunal effectively approved the merger on the grounds that Iscor's market dominance was so extensive that matters were unlikely to get worse.

We are not here to decide whether Iscor is allegedly abusing a dominant position – we are only called upon to decide whether the acquisition of control by LNМ will lead to a substantial lessening of competition from what it is now. In a nutshell, although they have of course not expressed it as such, Iscor and LNМ's case is that it makes no difference since it cannot get worse.

Competition Tribunal (2004: 6)

Reflective of rising concerns expressed by the DTI over the monopolistic practice of import parity pricing (IPP), detailed in 7.3.1 below, Minister of Trade and Industry Alec Erwin intervened in the merger. He expressed support for the merger, on condition that a "developmental steel pricing" model adequate to address the DTI's concerns with respect to the practice of IPP would be agreed between the DTI and LNM. A memorandum of understanding struck between the DTI and LNM prior to the merger committed in non-binding terms to such a pricing model. However, no agreement could be reached on a pricing arrangement acceptable to the DTI as AMSA failed to table a model which materially offered steel prices at levels lower than IPP (Department of Trade and Industry 2010; Roberts and Rustomjee 2010; Zalk 2014). Only recently, when AMSA was compelled to turn to the state for support in the face of the post-crisis distress of the domestic steel industry has it been possible to secure commitment to such a pricing model that departs meaningfully from IPP, as discussed in 7.6 below.

7.3.1 Pricing and market conduct

Under state ownership Iscor had produced a wide range of steel grades aimed at meeting domestic needs. Following privatisation Iscor reduced the range of products it produced and raised domestic prices to the full import parity levels. While in 1989 Iscor appears to have been exercising some domestic pricing, notwithstanding the abolition of price controls in 1985, it has confirmed that since 1994 it had been pricing its steel for the domestic market at full import parity levels, that is up to the point that it cost users to import steel including notional transport costs (Iscor 2002). As Iscor lowered, and ultimately by 1995, terminated its shareholding in former engineering subsidiaries such as Metkor and Dorbyl, there

was little imperative to provide preferential pricing even to these companies, except in the case of specific joint ventures (such as between Scaw subsidiary Haggie and Iscor in the form of Consolidated Wire Industries (CWI)). As elaborated in Section 5.4.4. above, South Africa's geographic location and other obstacles to importing mean that even with tariff reductions, import parity pricing introduces a large premium between domestic and export prices, despite the country being a large net exporter of steel. Conversely the historical legacy of extensive public financial support, cheap electricity, dedicated infrastructure and from 2001 concessional iron ore prices meant Iscor and successor AMSA enjoyed numerous advantages placing its plants in the lowest quartile of the global steel cost curve (Figure 7.11) (Roberts and Zalk 2004 2004; Roberts 2008).

Iskor's privatisation transferred a natural monopoly from public to private ownership without regulatory oversight with respect either to pricing or decisions about steel investment and technologies (Fine 1997). A new Competition Act, as discussed in Section 5.4.4. above was meant to be the primary mechanism to address market dominance outside of regulated utility industries. However it has not proved effective in disciplining market power in steel pricing (bring in refs from 5.4.4). While there appears to be some rivalry in long steel products there has been very little overlap of flat products manufactured by Iscor and its successor ArcelorMittal South Africa (AMSA) on the one and hand and Highveld on the other, with Iscor/AMSA focussed on thinner gauges and Highveld on thicker gauge sheet and plate. Iscor and AMSA prevented Saldanha's output of ultra-thin hot rolled coil from competing with hot rolled coil produced at its existing inland Vanderbijlpark plant, by directing its output through Duferco to produce rolled coil with a contractual arrangement obliging Duferco only to sell into the export market (Roberts and

Rustomjee 2010). ArcelorMittal and Highveld along with other producers have been found to have engaged in a range of anti-competitive practices (Competition Commission 2016). Similarly, in 1996 Iscor formed a joint venture with steel trader MacSteel for exclusive distribution of Iscor's steel exports. Although the then Competition Board identified a number of competition concerns and recommended the joint venture be reviewed after two years, no review was conducted under the new Competition Act of 1998 (Roberts and Rustomjee 2010).

Import parity pricing involves the addition of a range of notional costs, largely transport related, to arrive at a domestic price approximating *what it would cost* steel users to import. A range of calculations have found pricing premia of the order of 33% above the free-on-board European price (that is exports delivered to Europe) in 2000, and 65% above the ex-works price on exported steel (Table 7.2) (Industrial Development Corporation 2000). Roberts (2008) found the domestic price 30-40% higher than free-on-board export prices price more than 60% above the ex-works export prices received by AMSA.

Table 7.2: Import-parity price calculations (\$ and R), 2000

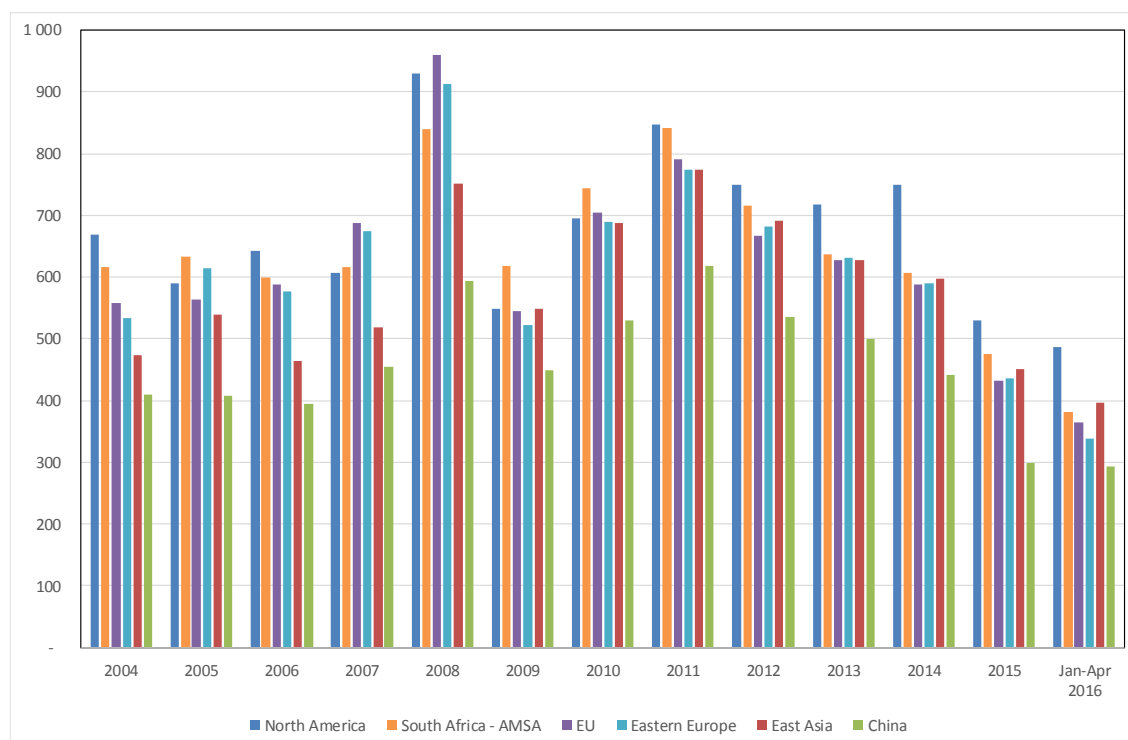
Local steel prices			Export steel prices		
	Hot-rolled coil	Galvanised		Hot-rolled coil	Galvanised
FOB Europe	\$210	\$400	Ex-works local price	\$170	\$358
+shipping to Durban	\$30	\$30	+ railage to Durban	R80	R80
+5% duty	\$12	\$22	+shipping to Europe	\$30	\$30
+railage to inland mkt	R80	R80		≈\$210	≈\$398
+5% local premium	\$14	\$30			
+delivery costs	R20	R20	FOB Europe	\$210	\$400
Ex-works local price	\$280	\$495			

Source: ABN AMRO in Industrial Development Corporation (2000).

Figure 7.6 thus reflects how AMSA's domestic steel pricing for hot rolled coil has consistently been in the highest quartile of global steel pricing relative to a range of

regional averages between 2004 and 2016 and typically similar to the highest cost region of the world: North America. This pattern has prevailed even as global steel prices have peaked and then declined since 2011.

Figure 7.6: Domestic steel transaction prices: hot rolled coil (US\$ per tonne), 2004 – April 2016



Source: Author's calculations based on ArcelorMittal South Africa (AMSA), CRU and MEPS (International) in (DTI Steel Pricing database n.d.)

In the context of generally high domestic prices AMSA has been compelled to offer a limited range of discounts and rebates, what has been described as a “privatised industrial policy” (Rustomjee and Roberts 2010). Secondary export rebates have been provided to firms that purchase steel and manufacture a for export on provision of *ex post* proof that the product was exported. Limited “strategic rebates” have been extended to enable greater competition with imported products although, although as indicated in Chapter 5 this has hardly stemmed the tide of rising import penetration in fabricated metal products and machinery and equipment. More competitive prices have also been provided in the face of potential

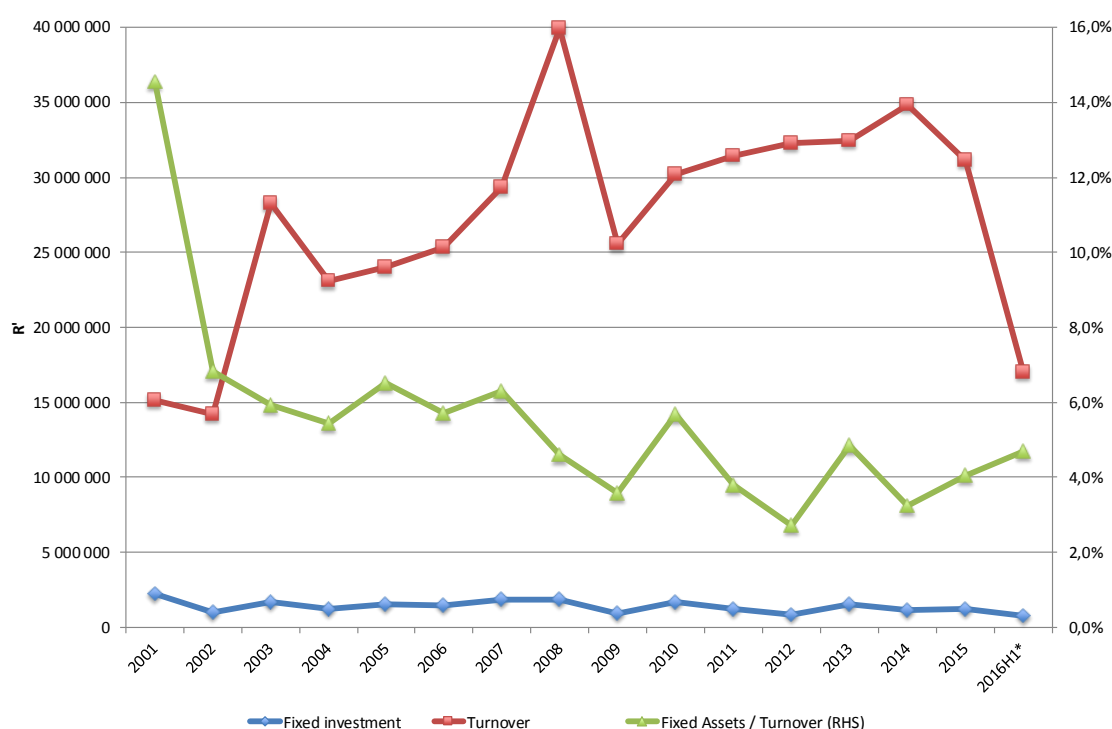
substitution of steel with substitute products such as steel roofing tiles with cement tiles, but has not been extended for instance to steel used in corrugated sheet. There have also been industry specific deals such as for the packaging industry to prevent substitution with plastic or glass packaging and for the automotive industry reflecting the ability of original equipment manufacturers to source components and even assemble vehicles elsewhere in the world (Competition Tribunal 2004)

7.3.2 Underinvestment and rising inefficiencies

Government concurrence, specifically that of the Minister of Trade and Industry, for the acquisition in 2001 by Mittal (then LNM), of an equity stake in the unbundled Iscor and subsequently majority Mittal ownership, was consistent with the uncritical faith in the benefits of foreign direct investment (FDI) reflected in *Growth for All* (South Africa Foundation 1996) and GEAR (Department of Finance 1996). It also seen as an attractive solution to mounting post-privatisation problems in Iscor's steel making operations as well as the opportunity to take advantage of rising global iron ore prices by a confluence of Iscor and its executives, the IDC and Anglo. The capital-intensive nature of steel production lies not only in the high initial plant and equipment costs but in ongoing maintenance and refurbishment. One of the most expensive recurring costs arises from the need to reline blast furnaces every five to six years. One of the first decisions of the unbundled Iscor steel operations and the introduction of LNM as a shareholder was to push the blast furnace relining schedule by at least two years beyond the conventional five-to-six-year reline programme (Iskor 2002: 43). Iscor's investment rate, which had already declined to 6% of turnover by 2002, declined even further as it was renamed Mittal Steel South Africa in 2004 after acquiring majority ownership, and then ArcelorMittal South

Africa (AMSA) in 2007. That is to say foreign ownership and control of Iscor has been associated with an unambiguous decline in levels of fixed investment relative to turnover, even as turnover itself rose dramatically between 2001 and 2008 (Figure 7.7).

Figure 7.7: Iscor/AMSA: Fixed investment, turnover (R) and acquisition of fixed assets as a proportion of turnover (%), 2001 – 2016H1



Source: Author's calculations based on Iscor (various years), Mittal Steel South Africa (various years), ArcelorMittal South Africa (various years)

Since 2004 there have been multiple plant breakdowns and failures as evidenced in Table 7.3. Indeed, an additional risk was added to AMSA's risk register in 2004 of "(u)nplanned production interruptions caused by failure/breakdown of critical plant and machinery" (Mittal Steel South Africa 2004: 83). In 2014 "catastrophic plant failure" was added as one of the top ten risks in AMSA's risk register (ArcelorMittal South Africa 2014).

Table 7.3: Arcelor Mittal South Africa (AMSA) plant breakdowns and failures since 2004

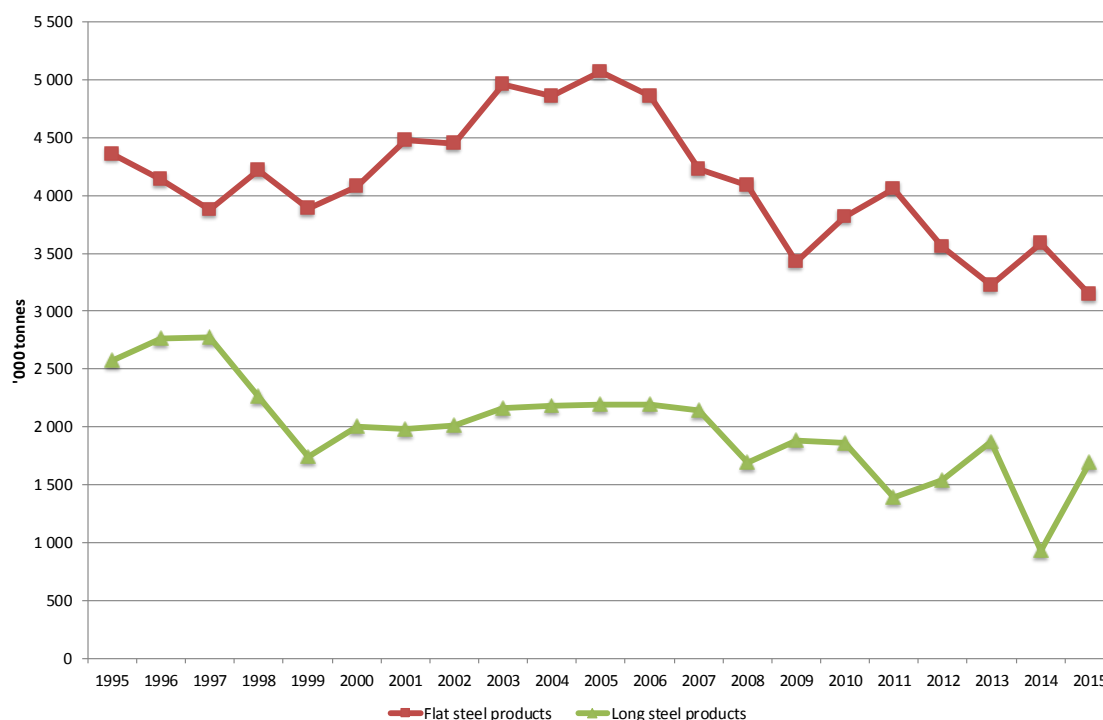
- 2004: Saldanha Conarc burn-through
- 2006: "Production disruptions" at both Vanderbijl (skip hoist failure and rail delivery problems) and Saldanha (oxygen and electricity outages).
- 2007: unstable conditions prevailed at the Saldanha Corex unit and conditions of the Newcastle N5 blast furnace deteriorated.
- 2009: "Cold hearth" conditions and a burn-through on an emergency tap-hole of the Saldanha Corex plant
- 2010: Newcastle cold furnace and shell burn-through
- 2011: "Catastrophic failure" of the Newcastle blast furnace dust catcher and "blast furnace instabilities" at Vanderbijl with "chilled hearth conditions" in two blast furnaces.
- 2013: Fire broke out at Vanderbijl due to the failure of a controller unit, resulting in spillage of molten steel.

Source: ArcelorMittal South Africa (various years)

While there was undoubtedly a need to rationalise the range of products being produced by Iscor, this has taken place without reference to strategies for development of particular manufacturing sectors. For instance, there was little interest in upgrading domestic steel production to meet the requirements of the growing automotive sector, with a preference instead to supply the South African market with imported automotive grade steel imported from ArcelorMittal plants elsewhere in the world (Arcelor Mittal South Africa various years; Mittal Steel South Africa various years). While economies of scale are fundamental to an industry such as steel AMSA's shareholding and ultimate control has been associated with a net reduction in steel production by Iscor and AMSA. Production volumes of flat steel

products were 28% lower in 2013 than in 2001 and production of long products 6% lower (Figure 7.8).

Figure 7.8: Iscor/AMSA production flat and long products ('000 tonnes), 1995–2015

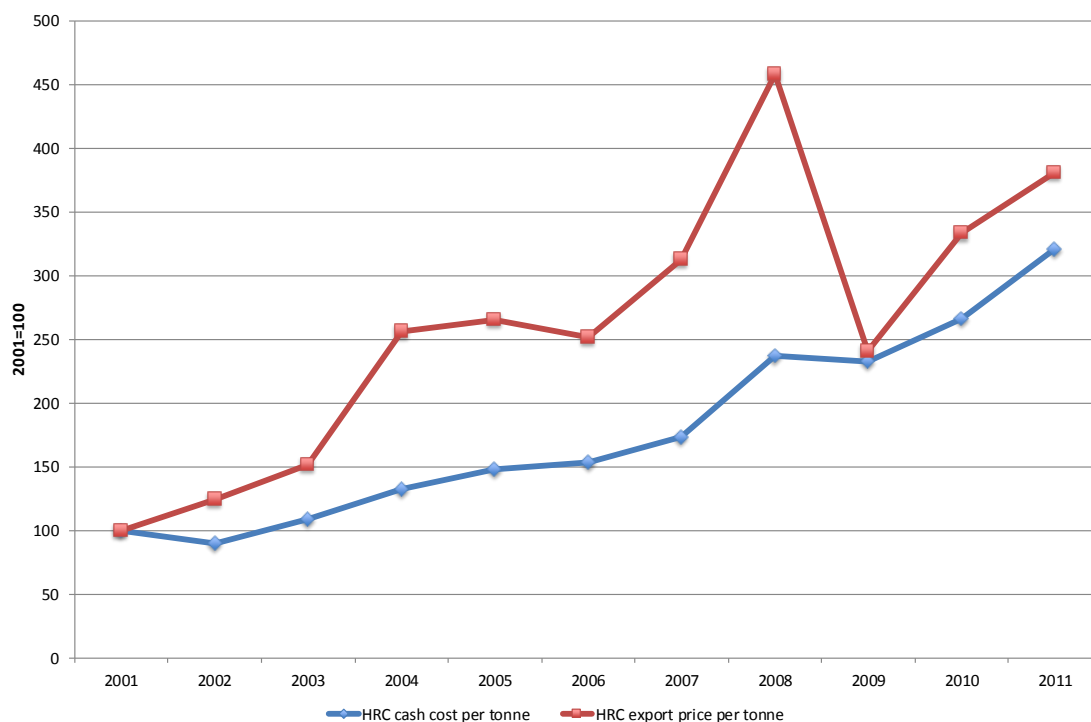


Source: Author's calculations based on Iscor (various years), Mittal Steel South Africa (various years), ArcelorMittal South Africa (various years)

The legacy of cheap iron ore from the unbundling arrangement with Kumba for a large proportion of AMSA's requirements combined with rising international steel prices served to mask rising inefficiencies and escalations in AMSA's steel production cost as reflected in Figures 7.9 and 7.10 below. Cash costs per tonne for hot rolled coil (the benchmark flat product) and billet (the benchmark long product) grew by 74% and 142% respectively between 2001 and 2007. The unravelling of AMSA's iron-ore supply agreement with Kumba (discussed in Section 7.4 below) and increasing electricity prices compounded but were not the primary cause of rising production costs, AMSA was compelled to secure new iron ore pricing arrangements on less favourable terms, even as international steel prices faltered after the onset

of the global financial crisis. As a consequence of rising inefficiencies and costs Figure 8.11 demonstrates how AMSA's flat steel plants rose dramatically up the global cost curve between 2008 and 2012.

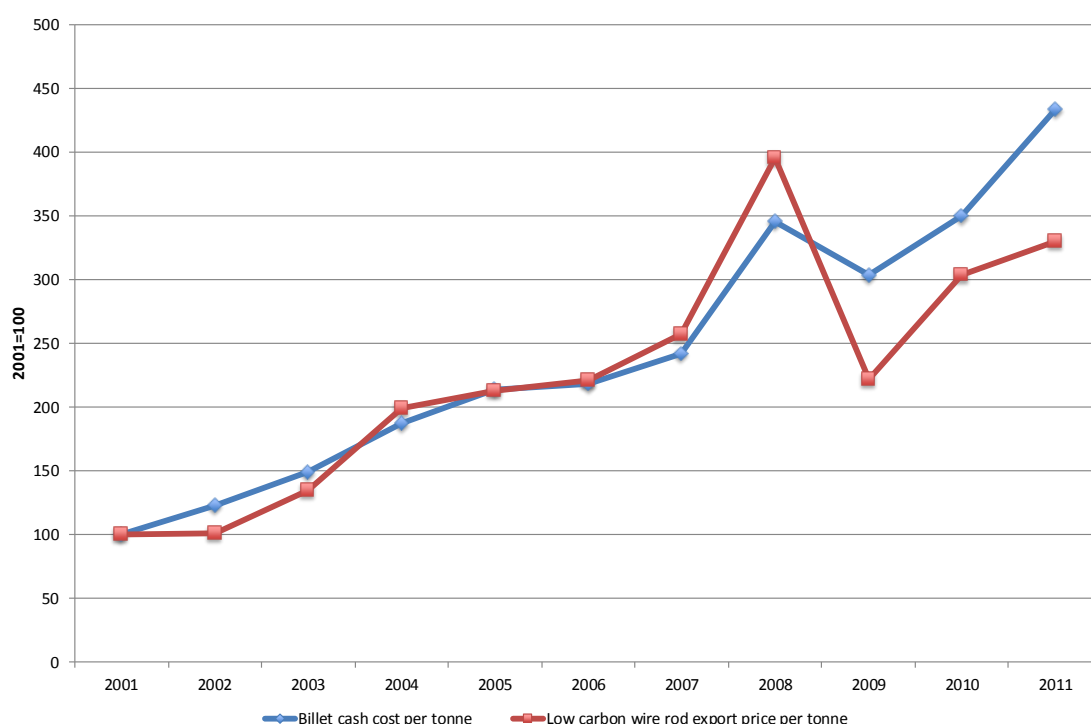
Figure 7.9: AMSA Hot rolled coil (HRC) cash cost and export price (US\$ per tonne), 2001-2011



Source: Author's calculations based on Iscor (various years), Mittal Steel South Africa (various years), ArcelorMittal South Africa (various years)

Notes: Price US\$ per tonne Cost & Freight (C&F), 2003 hot rolled coil (HRC) price imputed from 2004 price and y-o-y increase figure. From 2012 AMSA stopped reporting cash costs and export prices in their annual reports and associated financial statements.

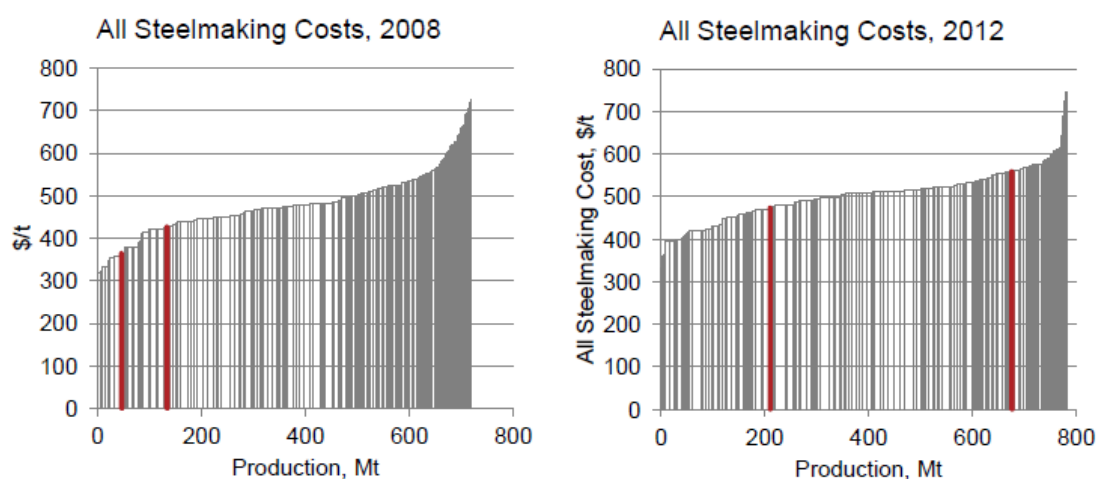
Figure 7.10: AMSA Billet cash cost and export price (US\$ per tonne), 2001-2011



Source: Author's calculations based on Iscor (various years), Mittal Steel South Africa (various years), ArcelorMittal South Africa (various years)

Notes: Price US\$ per tonne Cost & Freight (C&F). From 2012 AMSA stopped reporting cash costs and export prices in their annual reports and associated financial statements.

Figure 7.11: Position of AMSA's flat steel plants on the global steel cost curve (\$ per tonne), 2008 vs 2012



Source: CRU data in Industrial Development Corporation (2014).

Not only has the involvement of ArcelorMittal as investor and ultimately majority shareholder of formerly state owned Iscor been associated with underinvestment

and rising inefficiencies, it has not resulted in net fixed capital inflows into South Africa. Extraction of rents is evident from the outflows of funds from AMSA to its shareholders in the face of rising inefficiencies (Figure 7.4). Substantial payments related to the BAA in 2003 and 2004, which exclude BAA remuneration received in the form of Iscor shares, supplemented dividend outflows. AMSA introduced a new set of fees remitted to its global parent for "Corporate Services" from 2008 and "Research and Development" from 2009 respectively, despite multiple plant failures, deteriorating efficiencies and the absence of any R&D engineers in South Africa. In 2009 ArcelorMittal initiated a massive capital reduction of R6.35bn despite large maintenance and upgrading backlogs at its South African plants. In total, between 2001 and 2015 the recorded flow of funds out of AMSA to its shareholders amounted to R21.8bn, of which 63 per cent or R13.7bn accrued to the ArcelorMittal global group, based on its 56 per cent shareholding in AMSA and the payments in terms of the BAA.

Table 7.4: Capital extracted from ArcelorMittal's South African operations (Rm), 2001–2015

	Dividends	Capital Reduction	Business Assistance Agreement (BAA)	Corporate Service Fee	R&D Fee	Total capital extracted	Arcelor Mittal share of capital extracted
2001	-						
2002	-						
2003	1 070		613				
2004	1 672		731				
2005	1 516						
2006	1 261						
2007	1 948			-			
2008	2 398			135	-		
2009	1 627	6 352		18	187		
2010	602			39	87		
2011	221			61	98		
2012	-			120	91		
2013	-			64	99		
2014	-			124	118		
2015	-			372	145		
Total	12 315	6 352	1 344	933	825	21 769	13 707

Source: Author's calculations based on Iscor (various years), Mittal Steel South Africa (various years), ArcelorMittal South Africa (various years)

In addition, Table 7.5 records further large scale cash transfers to AMSA's global parent, in the context of evidence of claims of extensive capital flight from South Africa, with trade misinvoicing in the metals sector identified as particularly prominent mechanism (Ashman + UNCTAD). While it cannot be established conclusively the scope for transfer pricing from 2008 onwards increased in line with a dramatic escalation in related party purchases from AMSA to its global parent. Furthermore, and in the context of large maintenance and upgrading backlogs, AMSA extend a range of loans, including capitalised interest, to its parent. A cumulative R36.7bn in recorded purchases by AMSA from its parent took place between 2005 and 2015, while AMSA also extended loans of R4.3bn to its parent in 2014 and 2015.

Table 7.5: Related party purchases from AMSA, and loans by AMSA, to its ArcelorMittal group parent, 2005–2015 (Rm)

	Purchases from AM Group	Group Loan	Accumulated Interest on Group Loan
R'm			
2005	9		
2006	555		
2007	222		
2008	5 038		
2009	3 045		
2010	3 897		
2011	5 691		
2012	4 668		
2013	4 588		8
2014	4 801	1000	132
2015	4 228	3268	
Total	36 742	4 268	140

Source: Author's calculations based on Mittal Steel South Africa (various years), ArcelorMittal South Africa (various years)

7.4 The significance of the Sishen mining rent battle

The 2001 unbundling of Iscor created the opportunity to capitalise on mineral resources, particularly iron ore and coal, that had historically been vertically-integrated which had historically provided a foundation to weather the volatility in world steel markets over the long term. These opportunities were grasped in the first instance by Anglo American, Iscor mining management and institutional investors to “unlock value” through the formation of Kumba Iron Ore (KIO) and Exxaro (in coal and heavy minerals). However, the supply agreement entitling Iscor and its successor AMSA to 6.25mtpa of iron ore from Sishen at costs plus a 3% management fee became the subject of intense contestation, particularly as iron ore prices escalated rapidly over the 2000s (Hawthorne et al. 2005; Roberts and Rustonjee 2009). Against the backdrop of the failure of low input prices being transmitted to low steel prices for downstream industry, the contestation over the disputed 6.25mtpa iron ore arrangement between KIO and AMSA is indicative of a

number of tensions running through South Africa's political economy reflected in and through government departments. As outlined in Chapter Five a major element of South Africa's emerging BEE policy and legislative regime was the introduction of the Mineral and Petroleum Resources Development Act of 2002 (MPRDA) and associated Mining Charter. The MPRDA effectively clawed back existing mining rights to the state with a process for mining companies to reapply for licences subject primarily to meeting black ownership targets of 15% by 2009 and 26% by 2014.

When AMSA overlooked the need to apply for conversion of its share in the old order mining licence associated with the iron ore supply arrangement Anglo-owned Kumba Iron Ore (KIO) identified this an opportunity to rid themselves of the obligation to supply AMSA iron ore on the concessional terms struck during the 2001 unbundling. Thus KIO applied for a new order mining right that excluded AMSA. However, a previously unheard of third party Imperial Crown Trading (ICT) with no prior mining experience also applied for and was granted a mining licence over the same 6.25mtpa of iron ore by the Department of Mineral Resources (DMR) under controversial circumstances, justified on the grounds of advancing black ownership in the mining sector. In court papers it was alleged that DMR officials alerted ICT to KIO's application and put in an alternate application which was adjudicated in ICT's favour. It transpired that ICT is a subsidiary of Oakbay Investments, controlled by the expatriate Indian Gupta family with controversial links to President Zuma, his family and associates (Faull 2013).³⁴

³⁴ Jacob Zuma's son Duduzane Zuma is a shareholder in Oakbay, and was a shareholder in ICT (<http://mg.co.za/article/2013-12-12-concourt-puts-sishen-mining-right-dispute-to-bed>)

In parallel with litigation aimed at clarifying ownership of the disputed mining licence, KIO cancelled its the cost plus 3% supply agreement with AMSA the two negotiated an interim agreement with the new supply agreement reported to be priced at cost plus 20% (Steyn 2013).

AMSA who had previously managed to avoid making any serious commitments to black empowerment, entered into a cynical BEE deal with ICT in August 2010, conditional upon the Sishen mining right awarded in ICT's favour being legally upheld after KIO appealed the decision in the courts. Had ICT been successful it would have paid R800m to ICT for having done nothing more than securing the disputed mining right.

The DTI engaged with the dispute through representations to DMR arguing that DMR should use its licencing discretion to seek to ameliorate the long-standing practice of monopolistic import parity pricing by making the 6.25mtpa of iron ore available on concessional terms on condition that the bulk of the benefit would in turn be passed on to downstream steel users in the form of a "developmental" steel price. However, DMR resolutely sought to uphold its decision to award the mining right to ICT on the grounds of advancing BEE ownership, until compelled by the Constitutional Court to affirm that the full mining right vested with KIO, with DMR reissuing the mining right to KIO without any downstream industrial development conditions attached (Creamer 2016).

In essence, the Sishen iron ore battle has been over whether a lucrative mineral rent should flow to Anglo and its shareholders in the context of intensifying pressure to

deliver shareholder value, for the ostensible promotion of BEE, or be deployed to advance industrialisation through supporting a developmental steel price.

7.5 Highveld and Columbus unbundling

In 2002 Anglo initiated a process of unbundling its steel assets which, at this time, consisted of Highveld Steel, Scaw Metals, and through Highveld, Columbus Stainless Steel (owned jointly with Samancor). By 2005, 76% of Columbus had been sold to the Spanish Acerinox group, with the Industrial Development Corporation holding the remaining 24%.

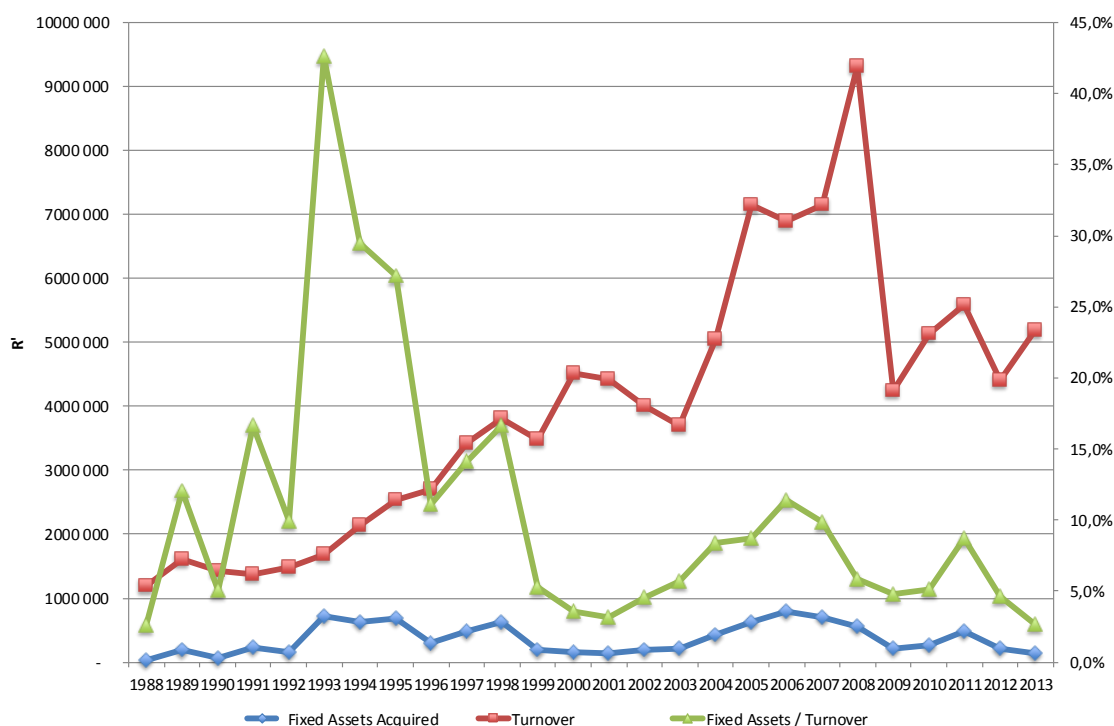
Samancor, itself a joint venture between Anglo and BHP Billiton (the successor to Billiton), was split into Samancor Chrome and Samancor Manganese. Samancor Chrome was sold to the Kermas Group (Anglo American 2005a; Visser 2006; South African Iron and Steel Institute n.d.). The sale of Samancor to Kermas involved a 28% stake by a BEE consortium led by former Department of Trade and Industry Director-General Alistair Ruiters. However, the original deal collapsed under controversial circumstances with allegations that Ruiters sought to buy out some community shareholders at a fraction of the true value of their shares (Cohen 2008; Hill 2008).

Following Anglo's 2005 decision to narrow its focus to mining businesses over which it exercised control, Evraz acquired 80.9% of Highveld over 2006 and 2007. (South African Iron and Steel Institute, n.d.). Reflective of the subsequent imperative to extract cash from the Highveld operation, Evraz' debt-equity levels were

approximately double those of ArcelorMittal's in 2011 at close to 120% (Ernst & Young 2013).

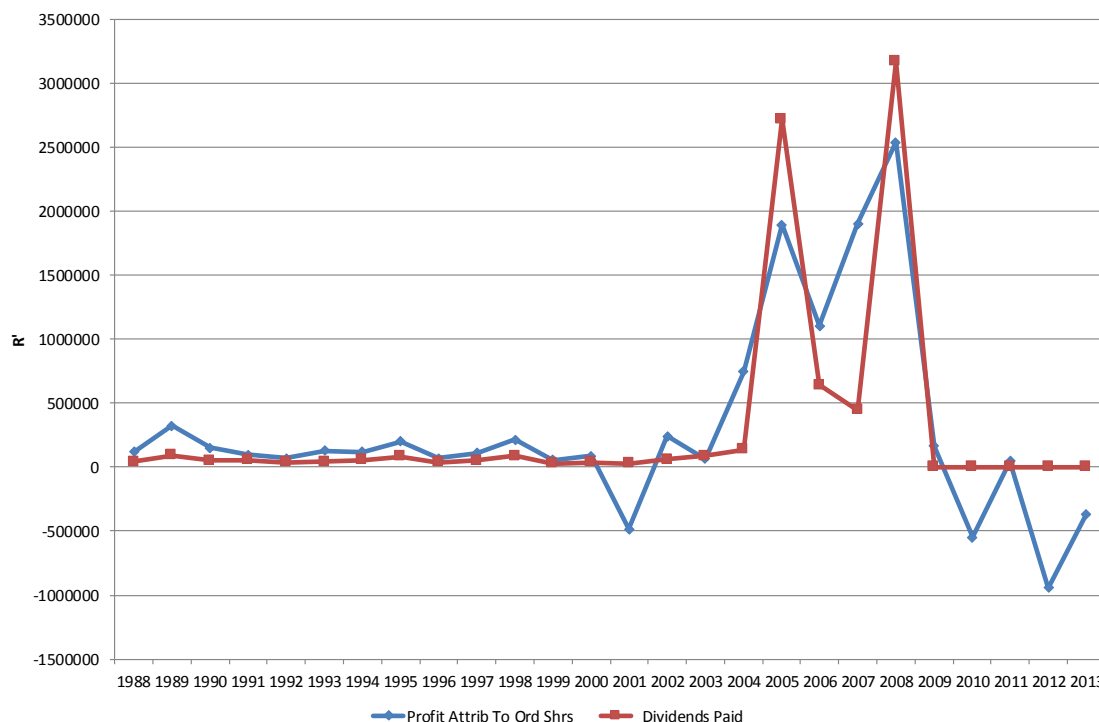
As with AMSA, foreign acquisition of Highveld by Evraz, has resulted in declining levels of investment rather than the attraction of capital for new investment and technological upgrading. Since 2006 investment rates, reflected by the ratio of the acquisition of fixed assets to turnover slumped, declining from 11.4% in 2006 to 2.8% in 2013 amid mounting production problems and growing inefficiencies (Figure 7.12). Notwithstanding mounting production problems and declining investment rates Highveld paid out a large proportion of profits, in years in which it was profitable, in the form of dividends (Figure 7.13). From 2010 Evraz became loss-making and was placed in business rescue in 2015.

Figure 7.12: Highveld investment rate: fixed assets, turnover (R) and fixed assets as a proportion of turnover (%), 1988 - 2013



Source: Author's calculations based on McGregor's BFA (n.d.).

Figure 7.13: Highveld profits and dividends (R), 1988-2013



Source: Author's calculations based on McGregor's BFA (n.d.).

Similarly to AMSA, Highveld Evraz reports a significant level of related party transactions with other companies in the global Evraz group, reflecting the potential for transfer pricing.

Thus foreign ownership has not inevitably resulted in the running down of pre-existing steel assets. In contrast to developments with both AMSA and Highveld Evraz, Columbus stainless steel under Acerinox ownership has remained financially sustainable.

7.6 The recent crisis in South Africa's steel industry

After benefiting from buoyant global steel prices between 2002 and 2008 in particular, the South African steel industry entered a period of crisis following the onset of the global financial crisis. The proximate causes cited for this crisis have

been a combination of falling steel prices, weakening domestic demand, rapidly increasing electricity prices and a large surplus of Chinese steel production over its domestic consumption leading to increased Chinese steel imports. In 2015 AMSA approached the SA government with a plea to reintroduce tariff protection, reflecting how the former state owned steel company had become unable to weather the fluctuations of global commodity prices after over a decade-and-a-half of underinvestment and rent extraction. (Department of Trade and Industry 2016)

7.7 Conclusions

The introduction of foreign ownership of former state-owned Iscor was presented publically as necessary to simultaneously raise operational efficiencies through the presumptive benign properties of foreign investment in steel making and “unlock value” for investors, including the state-owned IDC. In practice it was predicated on realising opportunities for private business groups and Iscor management to benefit from rising iron ore prices and to seek a way out of increasing post-privatisation difficulties. Rather than delivering these putative benefits, foreign ownership of Iscor by ArcelorMittal has resulted in large-scale rent extraction and underinvestment linked to the need of its parent company to service high levels of debt accrued in its acquisition-fuelled ascendancy, and left it more vulnerable to downturns in global steel prices than before.

A similar pattern has unfolded with respect to the unbundling of Anglo’s Highveld operations compelled by rising demands of institutional shareholders for Anglo to focus ever more narrowly on its core mining business and to unlock greater shareholder value. Highveld’s new owner Evraz, having accrued even higher debt

levels than ArcelorMittal in its acquisition of steel plants, similarly extracted rents and underinvested, leading to the demise of South Africa's second largest steel group.

The battle over the Sishen iron ore rents has been illustrative of key fault lines in South Africa's post-apartheid economy, particularly the "pincer movement" which efforts to mobilise policies for industrial development and diversification have been caught. It also reflected the nascent shift to a particularly predatory and unproductive form of rent-seeking and patronage, pursued under the rhetorical banner of advancing BEE.

Chapter Eight

Corporate restructuring of the major conglomerate engineering subsidiaries

In 1990 the engineering industries collectively had shrunk by around one third compared with their 1981 peak, measured by value added in real 2010 prices. However, both metal fabrication and machinery were individually larger than the basic iron and steel sector, with transport equipment approximately half its size. Over the post-apartheid period growth in the capital intensive steel sector has outstripped that of its downstream engineering counterparts. Employment has declined in all but the machinery sector. While the upstream steel industry has consistently generated a trade surplus and engineering exports have increased, imports of both of final and intermediate engineering products have increased far more dramatically.

This chapter illustrates how conglomerate unbundling of its leading engineering subsidiaries has contributed to a pattern of underperformance and lost opportunities in the engineering sector. Section 8.1 deals briefly with the process of global restructuring, specialisation and consolidation that has taken place in the engineering industry. Section 8.2 discusses the changing role of the engineering subsidiaries of dominant conglomerates over South Africa's transition amid weak domestic demand due to orthodox reforms and limited competitiveness in export markets due to the legacy of limited capabilities built up under conglomerate ownership. Section 8.3 demonstrates the relatively successful internationalisation of Scaw's grinding media business, notwithstanding significant weaknesses, which was destroyed by Anglo's unbundling process. Section 8.4 deals with Boart's

unbundling, reflecting how the legacy of managerial and technological complacency under Anglo's apartheid-era ownership contributed to conditions for the similar dismemberment via unbundling of this globalised South African mining engineering group. Section 8.5 describes Rembrandt's inability to render Dorbyl competitive over the transition, leading to ultimately to a destructive unbundling process by Remgro characterised by managerial enrichment and "returning value to shareholders". Section 8.6 concludes.

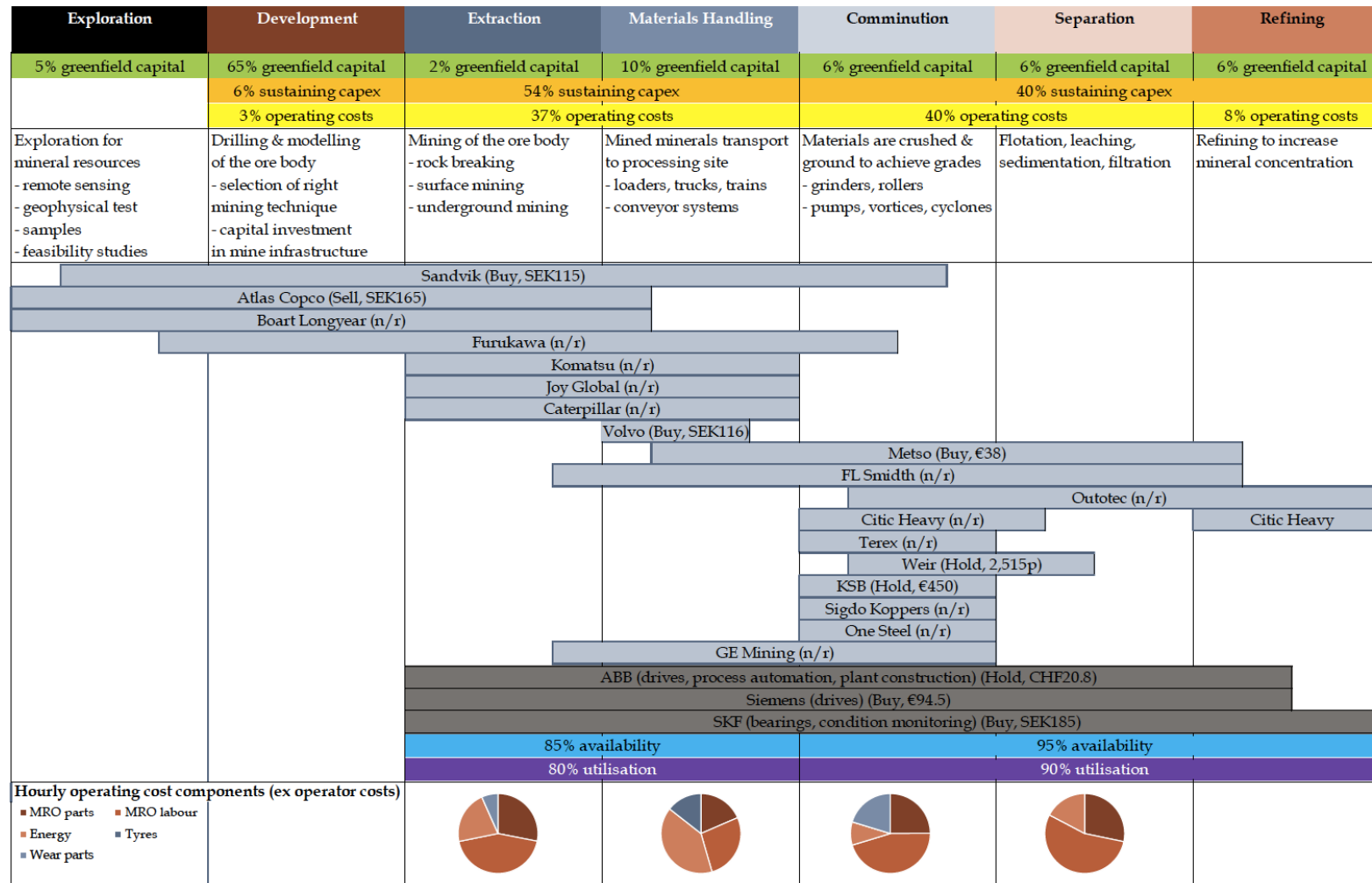
8.1 Global restructuring in engineering

Engineering straddles a wide range of industries in which Original Equipment Manufacturers (OEMs) and subsidiary suppliers have consolidated as part of the global Global Big Business Revolution (GBBR) process. Nolan et al. (2002) record a range of "complex equipment" sectors where between one and four firms have come to hold 20% or more of global market share. These include control and automation equipment, machine tool controls, printing presses, farm equipment, warehouse forklift trucks, professional ovens, thermostats and switch-on kettles, lifts, rolling bearings, forest machinery and railway braking systems.

Most global OEM's producing mining capital equipment have emerged from economies with a long history of mining and other forms of resource extraction, such as the United States and the Scandinavian economies (Walker and Jourdan 2003). Mining capital equipment has similarly come to be dominated by a handful of large transnational OEMs, often emerging from these former mineral-based economies, with sub-specialisation in various stages of mine development, extraction, materials handling and further processing (Figure 8.1). OEMs are

dominant in particular, but sometimes overlapping segments of mining include Sandvik, Atlas Copco and Boart Longyear which dominates drilling for exploration and mine development (Brunner 2014). Large vehicle producers such as Komatsu, Caterpillar and Volvo are lead firms in extraction and material handling, with South African Bell Equipment a much smaller global player (Kaplinsky). Machinery to separate minerals from ore bodies is dominated by firms such as Metso, FL Smidth, Outotec and Weir. In grinding media, Scaw Metals' most prominent area of production, and in which it led world production prior to its unbundling, firms such as Sigdo Koppers and One Steel are preeminent.

Figure 8.1: Major mining capital equipment suppliers according to stage of mineral extraction process



Source: Berenberg Equity Research (2013)

8.2 The changing roles of conglomerate engineering subsidiaries over the transition

As discussed in Chapter 3 the engineering subsidiaries under the control of the three large conglomerates: Anglo, Rembrandt and Iscor played three major, albeit shifting, roles during apartheid industrialisation. First, they provided the heavy engineering capabilities necessary for the installation, expansion and maintenance of mining, heavy industry and associated infrastructure required by MEC sectors. Second, conglomerate engineering subsidiaries acted as major conduits for the steel output of Iscor and Highveld. However, as private and public megaproject investments dried up over the 1980s, both of these functions came under severe pressure. Thus thirdly, engineering subsidiaries were used to bolster conglomerate profitability through acquisition of competitors within stagnant or shrinking domestic markets (Rustomjee 1993). In the process substantial industrial capabilities were built up. However, the lack of strategy and compulsions by government and the conglomerates to reorient these capabilities concentrated around heavy engineering saw the engineering sectors falling into crisis by the late 1980s. The need for a national strategy to build upon, reorient and develop engineering capabilities de-emphasised over the transition in favour of the ideological assumption that removal of market distortions would automatically “reveal” areas in which South Africa had an innate comparative advantage. Whereas the pocket of international competitiveness reflected by South Africa’s mining capital equipment sector has been uncritically celebrated as an example of such revealed comparative advantage (Kaplan 2011; Morris et al. 2012), the restructuring of Scaw and Boart in particular reflect important limitations and lost opportunities, in the context of increasing global specialisation and scale in mining capital equipment.

8.3 Scaw's restructuring and disposal

8.3.1 Responding to weak domestic demand

The scope and depth of Scaw's capabilities developed by the early 1990s are reflective of the functions it had served under conglomerate ownership since its acquisition by Anglo in 1964. Scaw developed substantial capabilities that straddled a wide range of primary mini-mill steel production and value-added engineering products serving three main markets: mining, rail and general construction. Rolled products included reinforcing and engineering steels, profile sections, flats, coiled bar and wire rod. Its foundry products included castings for power generation, cement, railroad, automotive, general engineering and mining. Grinding media, the product line in which Scaw has proved most successful, is used in gold, platinum and copper mining and for coal-based power plants. Scaw's Haggie subsidiary produces wire, rope and strand products for mining and other applications. A large proportion of its rolled products output of bar and rods feed into grinding media and wire rope for mining. Scaw also developed significant capabilities in castings, particularly related to the rail sector including frames, bogies and wheels (Anglo American Industrial Corporation various years; Innes 1984; Hannemann 2014).

Over the 1990s Scaw continued the pattern of domestic acquisitions initiated in the 1980s, aimed chiefly at consolidation in the context of low domestic fixed investment and weak demand. In 1993 it acquired 60% of McKinnon Chain and the remaining 40% in 1998. In 1999 it bought out the remaining 64% of Haggie and delisted it from the JSE. In 2008 Scaw acquired the Ozz Foundry Group consisting of Eclipse West Foundry, Eclipse East Foundry, Eclipse Boksburg and Dimbaza

Foundry. However, of the four foundries only two still remain operational (Eclipse East and Eclipse Boksburg) with weak performance of Scaw's foundry operations reflective of a broader trend of slowing post-apartheid foundry sector growth. Scaw also invested to secure and more efficiently process its single most important input: ferrous scrap, installing a mega-shredder in 2003 capable of dealing with processing "poor quality light scrap" and separating non-ferrous material. It also purchased scrap merchant Leo Scrap in 2008 to ensure greater security of supply of scrap metal (Hannemann 2014; Scaw 2014).

Scaw entered the 1990s adversely affected by two trends in the South African economy. First, the long-term decline of the gold mining industry which adversely impacted its wire rope and chain operations in particular. Second sustained declines in fixed investment from a 1976 peak of 32% to 21% in 1990 and which remained below 20% thereafter until 2002 (Reserve Bank n.d.). Historically Scaw had been the predominant supplier to the South African Transport Services (SATS) (Transnet since 1990) of various cast products for rail, particularly wheels, bogies and frames. The collapse of SATS investment in the late 1980s thus had a strongly negative impact on Scaw's foundry operations as did weak domestic demand from general engineering and construction. (Hannemann 2014; Scaw 2014).

Demand for wire rope and chain products, used in particular for mine hoists in South Africa's increasingly deep gold mines, was adversely affected by the long-term decline of the domestic gold mining industry. In the context of weak domestic demand for its rolled products Scaw sought to deepen vertical integration by placing as much as possible of its rolled products with "internal clients" for further processing into higher value products particularly grinding media and rope and

wire products. Scaw has aimed to sell as much as possible of remaining rolled products to the domestic construction industry and only thereafter on the export market (Hannemann 2014; Scaw 2014).

Declining demand from mining has been only partially offset by seeking out new areas of export demand such as the provision of high strength chain to the oil and gas sector in markets such as the Gulf of Mexico, the North Sea and South East Asia. Scaw also developed an export market for PC strand, used on large construction projects as an alternative to reinforcing bar (rebar), has been developed with 80% of production exported to “prime destination” markets such as Germany, the UK and the US.

However, Scaw has not become an effective exporter of products other than grinding media. This is ascribed in large part to the “weight-to-value problem”: the high ratio of transport costs relative to sales price involved in the export of heavy and bulky semi-fabricated steel products. Thus although Scaw has consistently exported over many decades, a significant but variable proportion of its output has been treated as a last resort to maintain production volumes. In CEO Markus Hannemann’s terms, outside of grinding media, Scaw has been an “unhappy exporter” (Hannemann 2014). Furthermore Scaw has not managed to develop or acquire its own proprietary technology, particularly in its most successful area of production, grinding media. This is notwithstanding its production of grinding media dating back at least as far as the 1960s.

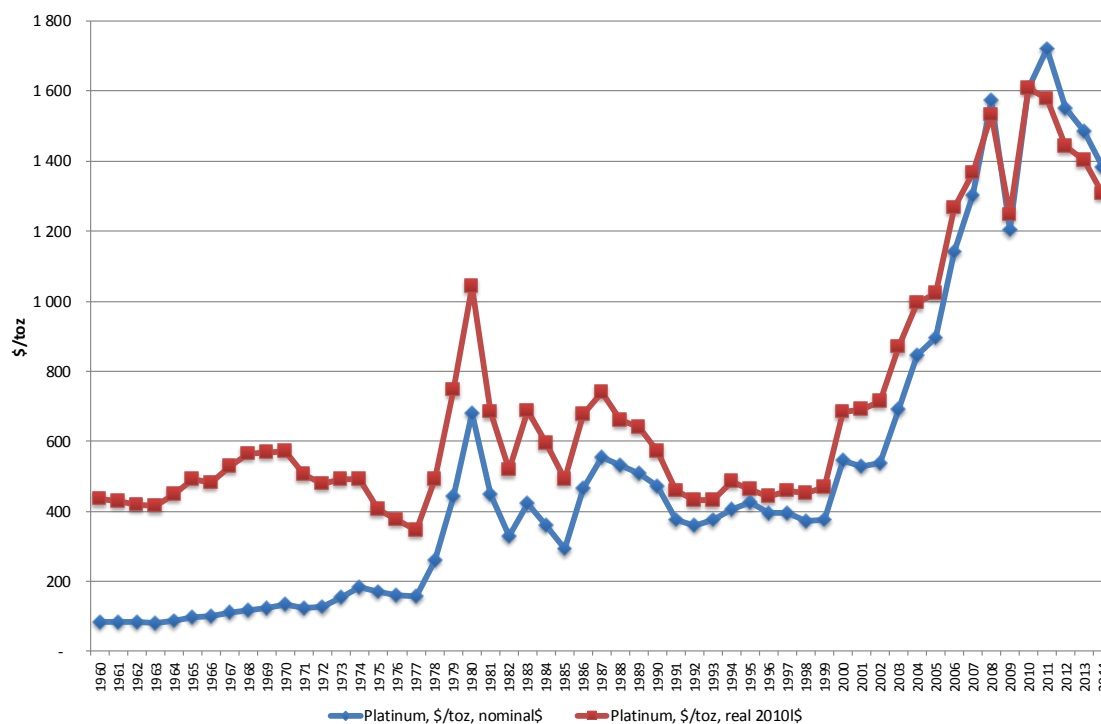
8.3.2 Internationalisation of Scaw's grinding media business

From the mid-1990s to the mid-2000s Scaw engaged in a substantial programme of internationalisation through acquisition, concentrated predominantly on grinding media. The most significant of these acquisitions were in North and South America including its 1996 acquisition of cast grinding media operation Proacer in Chile, a 50:50 joint venture with Scaw's long-term technology partner in high chromium grinding media: the Belgian Magotteaux group. In 2003 Scaw acquired further grinding media interests through the acquisition of Moly-Cop from the US group GSI Industries. This acquisition included all of Moly-Cop's Latin American operations, 50% of Moly-Cop Canada, 30% of Italian firm GSI Lucchini and Australian Donhad. Managed from South Africa, Scaw's grinding media business proved extremely profitable, fuelled by the growth of the copper mining industry in Chile and Peru. Scaw thus constructed a second grinding media plant in Chile and invested significantly in raising capacity in Peru and Mexico. In 2006 Scaw acquired Canadian AltaSteel which held the 50% of Moly-Cop Canada that it did not already own. Scaw subsidiary Haggie set up Haggie Rand North America in Canada in 1996. Scaw also acquired Australian chain manufacturer PWB Anchor in 2002 (Hannemann 2014; Scaw 2014). In parallel Scaw expanded its South African grinding media operations, opening its second high chromium grinding media line in 1994 and its third in 2003 based under licence to Magotteaux foundry group.

High chromium grinding media is used in platinum, copper, cement and power generation industries, while less sophisticated forged grinding media is used predominantly in gold and copper mining. Grinding media sales were supported in particular by the buoyancy of platinum mining in South Africa and copper mining in Zambia, Chile and Peru. Buoyant platinum and copper prices boosted domestic and

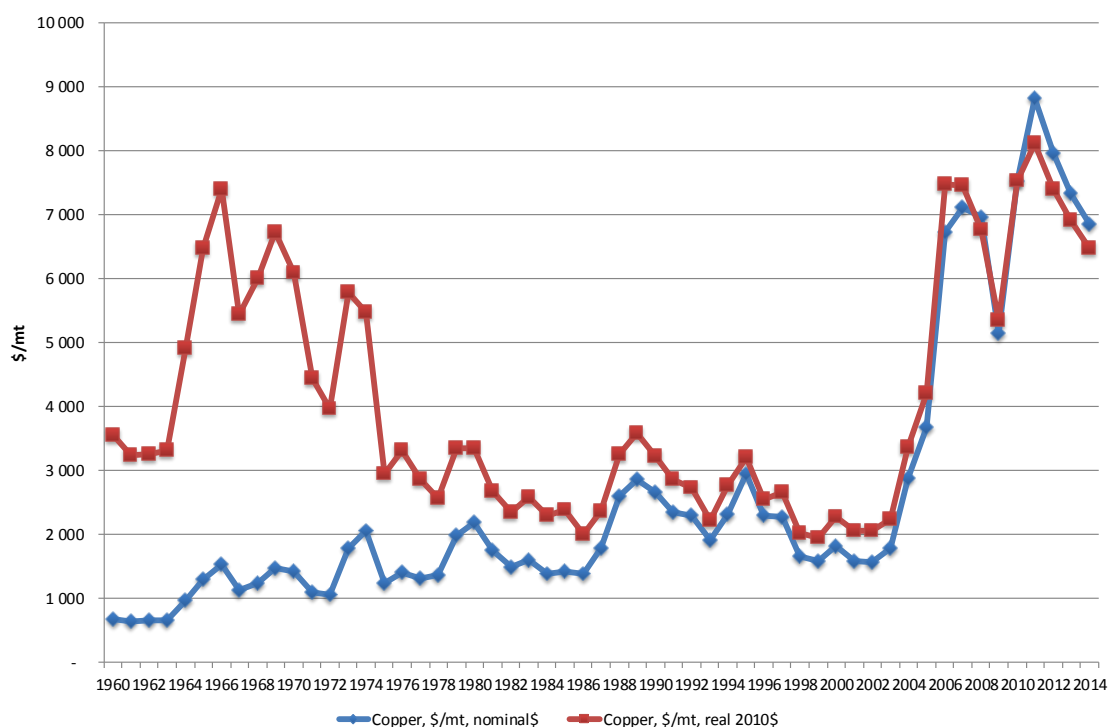
export sales from Scaw's South African operations and its Latin America plants over the commodity boom from the early 2000s until the onset of the global financial crisis in 2008 (Figure 8.2 and Figure 8.3).

Figure 8.2: World platinum prices (US\$ nominal and real 2010 prices per troy ounce), 1960-2014



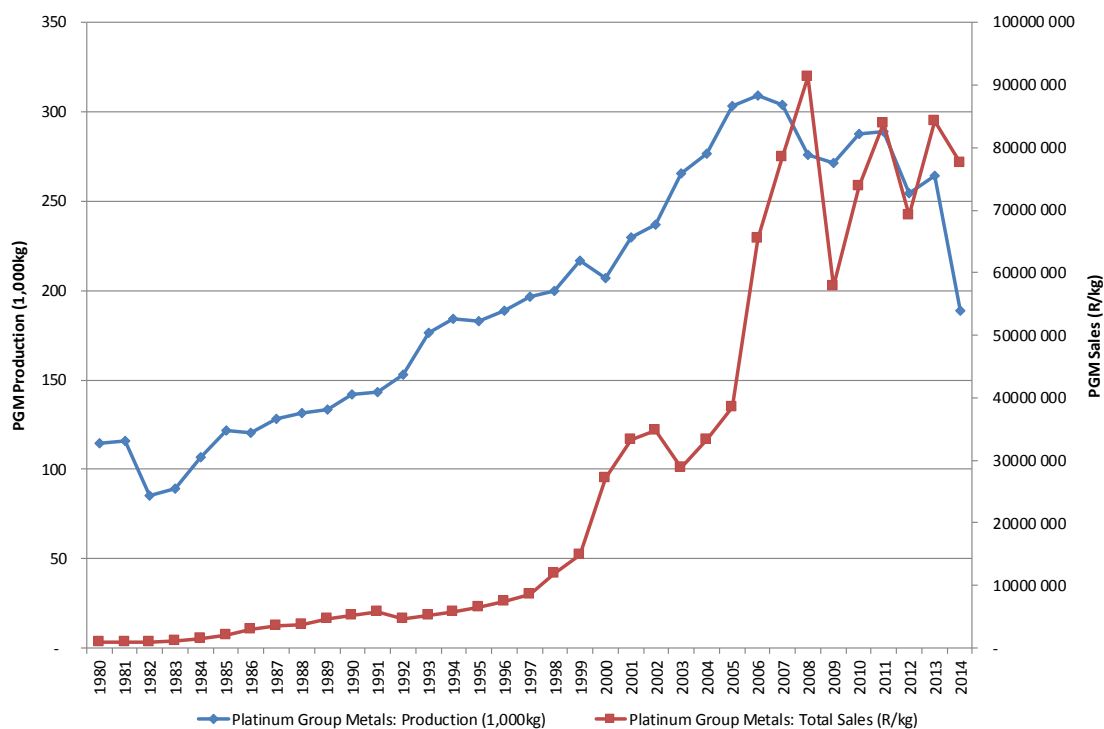
Source: Author's calculations based on World Development Indicators Global Economic Monitor (GEM) Commodities database (World Bank n.d.-c).

Figure 8.3: World copper prices (US\$ nominal and real 2010 prices per metric tonne), 1960–2014



Source: Author's calculations based on World Development Indicators Global Economic Monitor (GEM) Commodities database (World Bank n.d.-c).

Figure 8.4: South African platinum group metals (PGMs) production ('000kg) and prices (R/kg), 1980-2014



Source: Department of Mineral Resources (n.d.)

Bolstered to some extent by its participation in collusion in scrap metal and long steel products (Competition Commission 2016),³⁵Scaw was profitable, financially viable and had low levels of debt prior to its “corporatisation” by Anglo in 2007. In CEO Markus Hannemann’s terms the company was “cash-flush” and “stood on its own feet” (Hannemann 2014b). When reabsorbed into Anglo, Scaw was consistently significantly important to Anglo’s Ferrous Metals division profits until its ultimate unbundling (Anglo American various years).

8.3.3 Anglo’s corporatisation and unbundling of Scaw

Prior to its “corporatisation” in 2007 Anglo’s approach to Scaw under CEO Tony Trahar (from 2000 to 2007) was characterised neither by any particular strategic vision for the development of the engineering subsidiary nor control of its management. Rather benign neglect prevailed in the context of an “old boys club” involving a close relationship between Trahar, Tony Harris (Scaw CEO and Executive Chairman from 1996 until 2008) and Graham Boustred (who had risen to Deputy Chairman of Anglo and Chairman of AMIC Chair) (Hannemann 2014; Wood 2014). By the early 2000s Scaw contemplated a possible acquisition of its long-term technology provider Magotteaux. However Magotteaux rejected the offer, apparently due less to any commercial considerations than the abrasiveness of the senior Anglo and Scaw executives involved in the approach (Hannemann 2014).

³⁵ “The Commission’s investigation found that AMSA, CISCO, Scaw and Cape Gate (Pty) Ltd (Cape Gate), being competitors in the manufacturing of long steel products, engaged in collusion by fixing prices and discounts, allocating customers and sharing commercially sensitive information through the South African Iron and Steel Institute (SAISI) and the South African Reinforced Concrete Engineers’ Association.” (Competition Commission 2016).

Whereas prior to 2007 Anglo had adopted a "hands-off approach" to Scaw, under newly appointed CEO Cynthia Carroll "overnight Anglo were all over us" in a process described as "bringing value to Scaw" (Hannemann 2014). In 2007 Anglo "corporatised" Scaw into Scaw SA using private equity type mechanisms. "Corporatisation" involved Anglo raising loans against Scaw's balance sheet with the proceeds of the loan flowing to Anglo and Scaw responsible for servicing the debt. Anglo initially raised a loan of R3.3bn against Scaw's balance sheet which had the effect of lowering Scaw's net asset value to R5.3bn to facilitate a debt-based Black Economic Empowerment deal placing 26% of Scaw's ownership with a consortium of BEE investment holding companies: Inzingwe (8.16%), Southern Palace (7%), Shanduka Resources (5.83%) and a 5% employee share ownership scheme. ANC luminaries in this consortium included Siphon Pityana (Inzingwe) and Cyril Ramaphosa (Shanduka) (Creamer 2007).

The three BEE investment companies contributed a small amount of equity with repayment of debt over 10 to 12 years reliant on dividend flows from Scaw. All three groups exhibit a common structure amongst emerging BEE entities: investment holding companies without operational subsidiaries holding a wide range of (generally) minority BEE interests across multiple businesses and sectors. One of the advantages expected to flow to Scaw as a consequence of the introduction of 26% BEE ownership was that:

... the BEE investors believe they are well placed to support Scaw SA's ambition to position itself ... [as] ... significant suppliers into South Africa's R400-billion-plus public-infrastructure investment plan. Much of this capital would be invested by State-owned enterprises, such as

Eskom and Transnet, whose procurement rules incorporate strict BEE criteria.

(Creamer 2007)

The bulk of Scaw's "corporatised" value of R5.3bn flowed immediately to Anglo upon its corporatisation in 2007. That is Anglo received the proceeds of the loans raised against Scaw, leaving Scaw to service repayment of the debt capital and interest. In 2009 Anglo publically announced its intention to dispose of Scaw with the process taking three years during which Scaw "was crawling with consultants" (Hannemann 2014). Ultimately it is estimated Anglo indebted Scaw by around R6.3bn. In 2011 Anglo separately sold off Moly-Cop, embodying most of Scaw's international grinding media interests, for \$1bn to OneSteel Canada. Leading up to the sale Scaw's global sales of grinding media amounted to around 885,000 tonnes or 42% of the world market share for grinding media (Hannemann 2016).

Overlapping with the three-year unbundling process a combination of factors began to detrimentally affected Scaw's revenues and profitability. This included a decline in domestic infrastructure investment expenditure after 2010, the fall in prices and demand for mineral commodities after the onset of the global financial crisis and industrial unrest in South Africa's platinum sector linked reflected most brutally in the Marikana massacre.³⁶

³⁶ "On 16 August 2012, the South African Police Service opened fire on a crowd of striking mineworkers at Marikana, some 100km northwest of Johannesburg in the North West Province. The fateful event left 34 mineworkers dead, 78 wounded and more than 250 people were arrested. The protesting mineworkers were demanding a wage increase at the Lonmin platinum mine. The event was the biggest incident of police brutality since the advent of democracy and it revived memories of the brutality suffered under Apartheid security police." (South African History Online 2017).

Scaw found it increasingly difficult to service the debt that Anglo had saddled it with. In a “gun-to-the-head” transaction the Industrial Development Corporation bought out Anglo's stake in Scaw for R3.5bn amidst fear by the Department of Trade and Industry and the Economic Development Department that Scaw’s capabilities to provide localised inputs into the rail infrastructure programme would be lost, together with between six and seven thousand jobs. It is estimated that Anglo’s process of “bringing value to Scaw” culminated in the extraction of an estimated R17.1bn or \$2.23bn from Scaw to Anglo (Table 8.1). It is notable that this process coincided with Anglo’s share buyback programme of 2006–2008 described in Section 6.1.2. above.

Table 8.1: Total value extracted by Anglo American in its process of “bringing value to Scaw” (Rm)

	Rm	\$
Debt placed on Scaw’s balance sheet by Anglo (2007-2009)	R6.3bn	\$0.8bn
Sale of Moly-Cop (2011)	R7.3bn	\$1bn
Sale of Scaw SA to IDC (2012)	R3.5bn	\$0.43bn
Total	R17.1bn	\$2.23bn

Sources: Author’s calculations based on Hannemann (2014), Creamer (2007)

Note: Transaction prices converted at average annual R/\$ exchange rates from South African Reserve Bank

Upon the conclusion of Scaw’s divestiture Anglo CEO Cynthia Carroll stated:

The sale of Scaw brings the total announced proceeds from our divestments of non-core assets to \$3.7 billion since 2010, maximising value from these businesses for our shareholders. I am particularly pleased that the manner in which we conducted this divestment reinforces our ongoing commitment to South Africa. This acquisition will

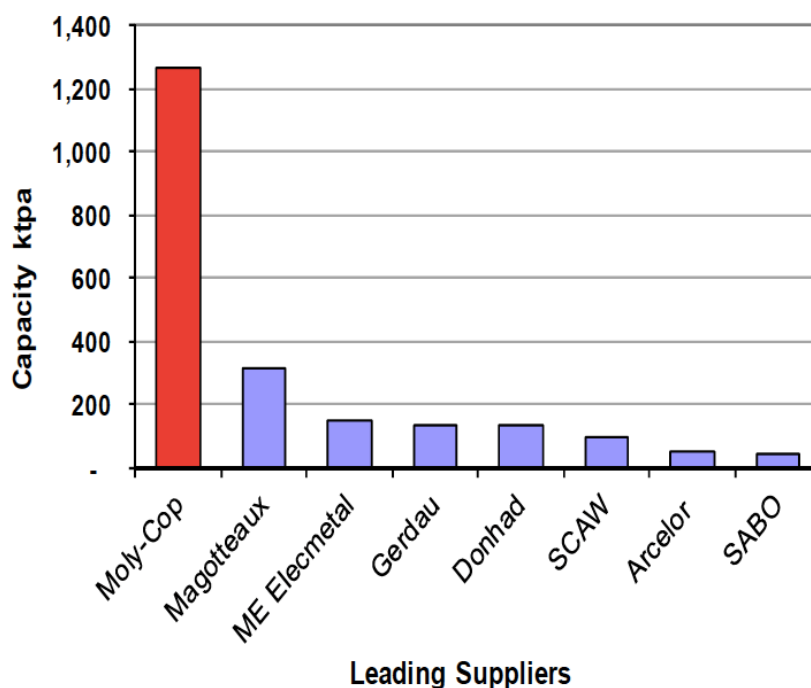
contribute positively to the South African government's industrial development objectives by enabling the IDC to play a meaningful role in the strategically important steel industry.

(Anglo American 2012)

8.3.4 Scaw: lost opportunities

Subsequent developments with MolyCop and Scaw's long-term Belgian technology partner Magotteaux, provide an indication of a possible alternative trajectory for Scaw and the opportunities missed. Magotteaux, one of the world's technological leaders in grinding media was acquired by a Nordic private equity group IK Investment Partners in 2006. In 2011 IK sold Magotteaux to a large Chilean industrial group, Sigdo Koppers which now owns Proacer (Scaw and Magotteaux's erstwhile Chilean joint venture) (Magotteaux 2011). In 2012 MolyCop, formerly Scaw's international subsidiary, had become the largest grinding media group by sales volumes. Magotteaux, under Sigdo Koppers' ownership was the second largest, with Scaw having slipped to sixth place (Figure 8.5). Thus, despite various weaknesses and missteps, including not securing ownership of Magotteaux, Scaw had by the mid-2000s built itself into the largest grinding media group in the world. Anglo dismantled a valuable national asset that was a major exporter and earner of foreign exchange, financially viable and embodied important industrial capabilities.

Figure 8.5: Grinding media capacity of leading suppliers (kilop-tonnes per annum), 2012



Source: OneSteel (2012)

8.4 Boart's restructuring and disposal

8.4.1 Introduction

Boart International (Boart) entered the 1990s as an exception to Anglo's and AMIC's general inability to develop manufacturing exports outside of capital-intensive resource-processing industries. Boart had developed and acquired substantial capabilities focused on hard rock drilling, and associated cutting and abrasive tools and exploratory drilling (Innes 1984; Rustomjee 1993; Howard 1996). In 1990 Boart employed around 10,000 people, was a consistently profitable contributor to AMIC earnings with 67% derived from exports and foreign operations from Boart's wide network of international subsidiaries (Anglo American Industrial Corporation 1990).

However, this apparent success concealed major and long-standing technological weaknesses, which would rapidly manifest themselves from the early 1990s. Boart had engaged in its own proprietary research and development (R&D) from the 1930s in conjunction with the University of the Witwatersrand's Minerals Research Institute. However, from as early as the 1950s Boart's R&D efforts begun to wane in favour of a strategy of securing technology by acquiring competitors, with the exception of an R&D facility it established in Klerksdorp, near Johannesburg, in 1978. In 1991 the Klerksdorp facility was closed down and all R&D shifted to a new Boart Group Technology Centre in Limerick, Ireland where Boart had established manufacturing operations and De Beers had set up synthetic diamond production in 1960 (Rustomjee 1993; Howard 1996; Brunner 2014; Wood 2014).

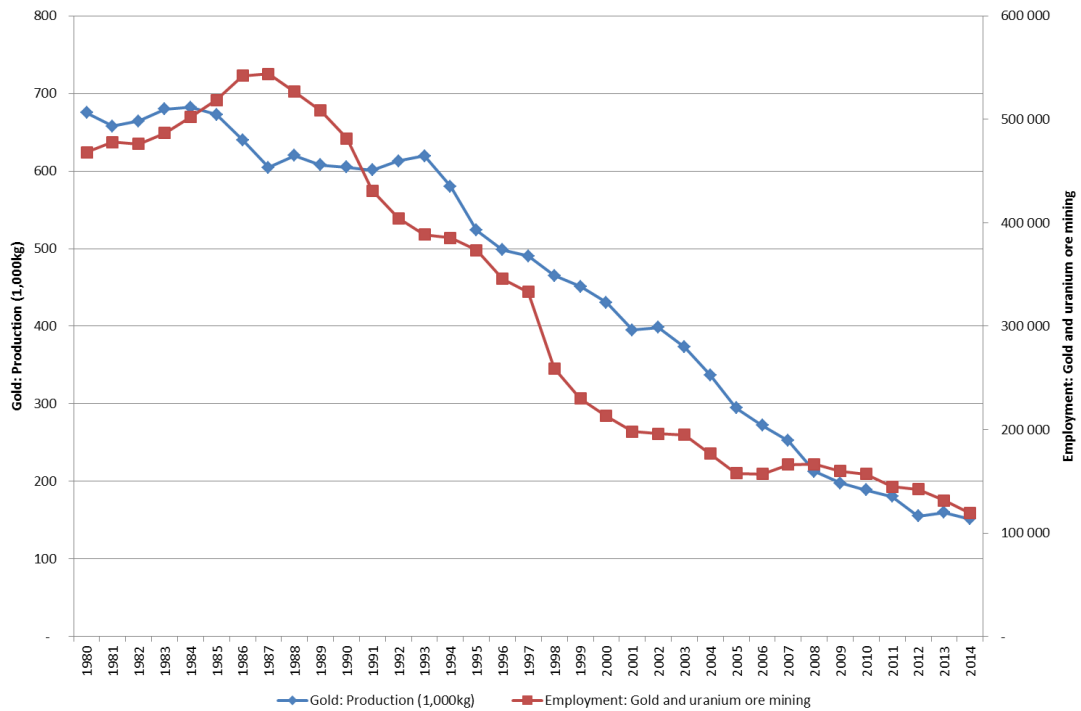
8.4.2 Domestic shifts in demand, global technological shifts

By the early 1990s Boart's activities were focused on percussion drilling for mining and construction; exploration drilling and geotechnical equipment; safety products and materials handling; and industrial diamond and carbide tools. Its South African plants were focused on handheld pneumatic rockdrills, with a domestic market share of around 90% (Mining Magazine 1995), integral steel, steel bits and carbide products. Production of pneumatic drills was overwhelmingly for the domestic market. A limited number of drills were exported, mainly to Canada and Peru. These countries have similar thin-vein mineral deposits to South Africa that requiring hand-held drilling for blast holes. North American sanctions on South African products, in place since the mid-1980s, proved an impediment to exports but not an absolute obstacle, with the export of Boart drills to Canada "made to appear clean" (Brunner 2014). However, outstanding indictments by the US anti-trust authorities

in relation to both De Beers' and Boart, related to price fixing and market sharing, made it difficult for Boart to operate effectively in the US market (Brunner 2014).

Historically Boart's South African operations were both the largest and most profitable of the global group. Profitability was driven by the pervasive use of Boart's hand-held pneumatic drills for blast holes as part of the labour-intensive extraction techniques used in South Africa's gold mines. However, from the early 1990s the contribution of Boart's South African operations to group profits dropped dramatically from around 50% to around 10% (Anglo American Industrial Corporation various years; Brunner 2014). This fall was a direct consequence of the severe decline of South Africa's gold mining industry that saw employment falling dramatically from 530,000 in 1986 to less than 200,000 by 2000 (Feinstein 2005 and Figure 8.6). The decline of this industry also saw Boart's exploratory drilling activity recede, with demand for deep exploration drills going "from hundreds to tens" per annum over the space of about five years (Brunner 2014). Pressure on Boart's hand-held pneumatic rock drills was also brought to bear from domestic competitors who initially began to produce "knock off bits" in competition with Boart's own drill bits and then shifted to the production of competing drills (Brunner 2014; Wood 2014).

Figure 8.6: South African gold mining production (1,000kg) and employment, 1980–2014



Source: Department of Mineral Resources (n.d.)

The decline in South African demand coincided with a longer-term technological shift that had been underway in the mining industry from hand-held pneumatic drilling to more efficient automated hydraulic drilling. By the time Boart began, in the 1990s, to produce hydraulic drills and the large drilling machines or "drill jumbos" required to operate them it had fallen technologically behind its global competitors. Former CEO Paul Brunner estimates that by the mid-1990s Boart was a "distant third" in terms of technological capabilities and world market share in hydraulic drilling and related capital equipment, compared to the world's leading OEMs: Atlas Copco and Sandvik. Brunner was of the view that long-standing problems had arisen at Boart as a consequence of poor management. Quality control systems were poor and management made inadequate efforts to upgrade the skills of its workforce.

These [South African plants] were generally not efficient plants and relied heavily on low cost labour. The inability of management to modernize them and reduce cost lead to their demise.

(Brunner, 2014)

Boart was also adversely impacted by the loss of technical expertise in steelmaking after Iscor dramatically reduced the size of its workforce in the wake of its 1989 privatisation. Severe problems with the quality of drill rods supplied by Iscor to Boart led it to lose significant market share in the mid-1990s which Boart was unable to recover (Wood 2014).

8.4.3 Restructuring and unbundling

The mid 1990s saw a process of restructuring and consolidation. In 1994 Boart merged with its longstanding United States contract drilling subsidiary: Longyear changing its name to Boart Longyear. In 1997 Boart established a joint venture in Wuxi, China to manufacture percussive drill bits and hard materials. This plant ultimately went on to manufacture the percussion drills themselves and continues to do so. Over the 1990s Boart continued multiple acquisitions both related to and outside of its traditional emphasis on percussion and exploratory drilling for the mining sector. With the exception of exploratory drilling there was little apparent strategic focus in these acquisitions in terms of building up world or regional scale capabilities to become a leading OEM in specific segments. By the 2000s Boart had become fragmented globally with a multiplicity of strategies. Boart operations and plants around the world were run “as a bunch of independent fiefdoms” (Brunner, 2014) impeding economies of scale and other efficiencies. Notwithstanding these

weaknesses Boart continued to hold a significant share of the global mining drilling and exploration market. In the Brunner's (2014) view, despite being a "distant third" in the global market for mining drills, Boart was "clearly the world leader" in mineral exploration drill rigs, exploration drilling tools and contracting for sample extraction followed by Atlas Copco.

In 2000 Anglo announced its intention to dispose of Boart. During the early 2000s there was a restructuring which saw some of the European facilities closed and absorbed into the South African plants. A proposal to headquarter Boart in the United States was deemed too politically sensitive by Anglo. Rather they split Boart's South African and international operations and sold them off separately, an approach that was subsequently adopted with respect to Scaw's unbundling discussed above. The pneumatic drill business was sold to a Black Economic Empowerment group, Tranter. To make the sale more attractive Boart purchased Huddy, a competing domestic producer of drill bits, with the sole purpose of closing it down (Brunner 2014). The hydraulic drilling and capital equipment business was sold off in to a tri-lateral consortium of investors comprising Nedbank Capital Private Equity, a BEE group: Matasis and company management and was renamed Aard Mining Equipment (McGillivray 2015). Both the diamond saw plant and the carbide businesses were sold to E6 Abrasives, a subsidiary of De Beers, located in Ireland. Following the disposal of Boart's South African operations there was a process of intense consolidation of Boart Longyear's international operations. In 2005 Boart Longyear was sold to an Advent/Bain private equity consortium, with a major subsidiary Wendt sold off separately. The combined sale netted Anglo \$667m (R4,243bn) (Anglo American 2005b).

8.4.4 Boart: Lost opportunities

Boart Longyear's headquarters were moved to Salt Lake City in the United States with Advent/Bain selling a controlling interest to Australian bank Macquarie. In 2007 Macquarie took Boart Longyear public for A\$2.3bn in the second largest initial public offering on the Australian Stock Exchange. Despite the company struggling with high levels of debt it remains a major global OEM in mining drilling services and equipment (Brunner 2014; Boart Longyear n.d.).

Tranter, the domestic company which purchased Boart Longyear's South African pneumatic drill operations has subsequently gone out of business (McGillivray 2015). Aard Mining Equipment produces hydraulic drill rigs and utility vehicles and has achieved very rapid growth off a low base, taking advantage of growth in South Africa's platinum mining industry, and employing around 250 people. 80% of its sales are domestic and 20% are exports to markets such as Zambia, Zimbabwe, Canada and Poland. However, Aard faces significant challenges in competition with large transnational OEMs like Sandvik and Atlas Copco. In the South African market transnationals have gained ready market access by establishing black empowered sales operations. In export markets Aard needs to build the service infrastructure necessary to support its products and the balance sheet to do so, which transnational competitors already have in place (McGillivray 2015).

Thus Anglo's unbundling of Boart has involved the destruction of significant industrial capabilities, export markets and foreign exchange earnings and major lost opportunities. Anglo's severing of Boart's international operations from its South African ones and subsequent sale foreclosed the opportunity to retain and develop

a global South African OEM in mining drilling, exploration and services. The flip-side of the pocket of dynamism and innovation represented by Aard is the weaknesses of having dismantled Boart's distribution and servicing network and the scale of financial resources to compete against large global OEMs.

8.5 Dorbyl's restructuring and disposal

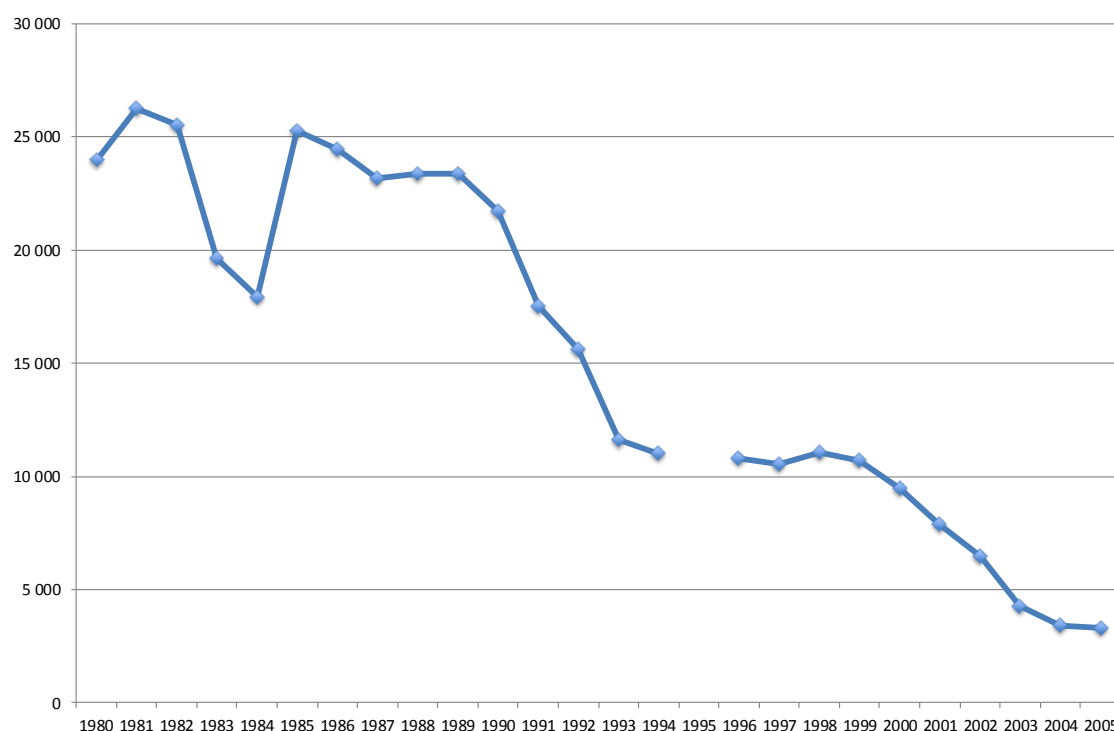
8.5.1 Dorbyl's difficulty in making the switch from heavy to light engineering

Dorbyl, as discussed in Chapter 3, was the largest engineering group in South Africa's history, employing over 25,000 people at its peak in the early 1980s. Dorbyl was built up with a strong focus on heavy engineering required for the expansion and maintenance of gold, platinum and coal mining; steel and other heavy industry; and electricity and rail infrastructure. That is to say many of the MEC sectors on which post-war industrialisation was based. The dramatic reduction, over the second half of the 1980s, of the number of these large and lumpy capital projects compelled Dorbyl to restructure from 1985 onwards in an effort to shift towards a greater light engineering focus, chiefly involving the acquisition of competitors. (Dorbyl various years; Rustonjee 1993). Leading up to South Africa's first democratic election Dorbyl, like Iscor and AMIC, initially anticipated an increase in demand from the rollout of the RDP and began reorienting itself to serve requirements including water reticulation, housing and community construction, and freight and passenger rail (Dorbyl 1994)

However, its single largest new investment project, TOSA, a seamless pipe and tube joint venture with Iscor, proved unsuccessful and was disposed of in 1994. Dorbyl's

difficulty in making the switch from heavy to light engineering is reflected in the steep decline in its number of employees, from 23,371 in 1989 to 10,989 in 1994 (Figure 8.7). These job losses were accompanied by a large-scale loss of skills and experience that could have been redeployed into other engineering sectors if a coherent industry strategy had been mobilised (Rustomjee 1993).

Figure 8.7: Dorbyl employment, 1980–2005



Source: Dorbyl (various years)

In 1995 Rembrandt exercised its right to acquire Iscor's remaining 25.8% share in Dorbyl's holding company Metkor, taking Rembrandt's stake to 76%. This cemented Rembrandt and Anglo as the two major shareholders in Dorbyl. However, rather than signalling optimism about Metkor and Dorbyl's prospects it was aimed at establishing stronger control over Dorbyl's restructuring. After an 18-month period during which it did not release an annual report, it announced a strategy for a "refocused Dorbyl". This involved a twin focus on the manufacturing and distribution of automotive components and "New Generation" infrastructure based

on light and medium engineering linked to RDP requirements in areas such as water, electrification, housing and transport (Dorbyl 1996). In automotives in particular, it emphasised the role of joint ventures and technological partnerships with international OEMs. It also stressed the need to grow foreign earnings through exports and offshore joint ventures.

8.5.2 Reshuffling the cards

The period from 1995 to 2003 was characterised by a flurry of acquisitions and disposals, multiple strategic reviews, announcements of restructuring and assurances that restructuring had been completed. Reflective of Froud et al.'s (2006) conception of "shareholder value" as an ephemeral narrative to convince shareholders that their strategies will deliver dramatic returns, this period was characterised by hyperbolic claims even as turnover stagnated (Figure 8.8). In 1998 Dorbyl announced that it would supplement its manufacturing activities with increased import-based trading activities in two main market segments: automotive components and steel trading. It invested in a major automotive aftermarket spares retailer, Midas and indicated that its steel trading division, Baldwins would supplement domestic products with imports (Dorbyl 1998). Meanwhile low public expenditure on buses for public transport and the lowering of tariffs on buses resulted in the closure of its Port Elizabeth Busaf works. Dorbyl's structural engineering unit was disposed of through an asset swap with Anglo subsidiary LTA in exchange for various engineering businesses which were folded into Baldwins (De Beer 2003, 2013).

As part of its drive to increase foreign income, Dorbyl entered into a range of joint ventures and acquisitions. The most significant of these was the acquisition in 1998 of Alpine, a US roofing company. The rationale presented for this purchase was that it would integrate Alpine's roofing design technology and customer base in the US, Europe, Japan, Australia and South Africa with Baldwin's roofing products "to launch Baldwins' products into world markets" with "[m]ajor secondary markets ... identified, which included underground mining applications, highway sound walls and security perimeter fencing" (Dorbyl 1998: 35).

In 2001 Dorbyl re-emphasised its "base strategic philosophy ... to grow export and offshore business" (Dorbyl 2001) targeting 50% offshore sales over the next three to four years from the current level of 26%, amidst signals of poor management and financial controls. Group results for 1999 had to be restated in 2000 due to "the discovery of material accounting misstatements and a series of fraudulent acts" (Dorbyl 2000: 10) and consequent overstatement of its operating income and margins. As the prospects of raising export sales rapidly receded, the distinction between exports and offshore earnings through acquisitions became increasingly blurred with a shift to the latter. A slew of disposals followed as operating income fell by 40%, but shareholders were reassured that "major problems have ... been resolved through sale or closure" (Dorbyl 2001: 8).

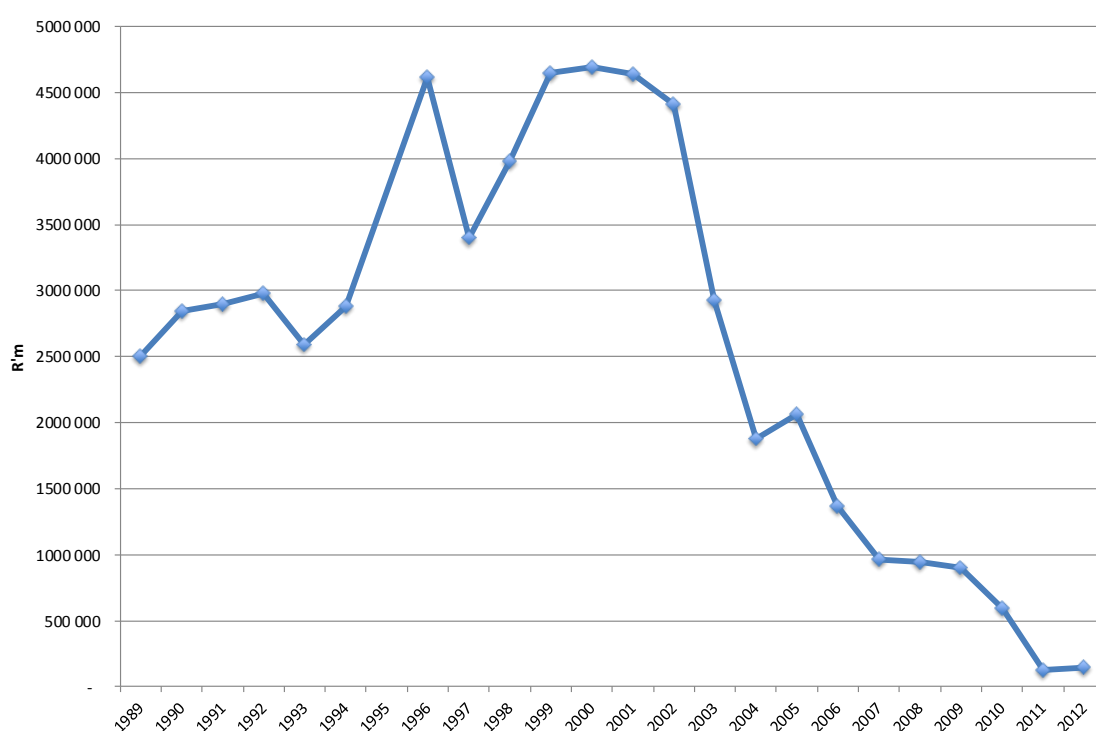
Dorbyl management's ineffectiveness in sustaining and growing either domestic or exports sales and profits were not restricted to its manufacturing businesses. In 2002 Dorbyl announced that it would be disposing of Midas, distributor of parts for the automotive aftermarket of which at least 50% were imported. The failure of Midas was attributed to all manner of factors including "macro economic issues of

crime, AIDS, unemployment, consumer price and fuel price increases" (Dorbyl 2002: 22). The inability of management to improve the financial performance of either its manufacturing or import-based businesses, even as the conditions for the latter became increasingly favourable as trade liberalisation progressed, points towards management as the primary cause of failure.

8.5.3 "Releasing value to shareholders"

Figure 8.8 indicates that from 1996 Dorbyl generated no growth in turnover, not even in nominal terms. The effects of various disposals are evident from plummeting revenues from 2003 (Figure 8.8) and further declines in employment (Figure 8.7).

Figure 8.8: Dorbyl turnover (Rm), 1989–2012

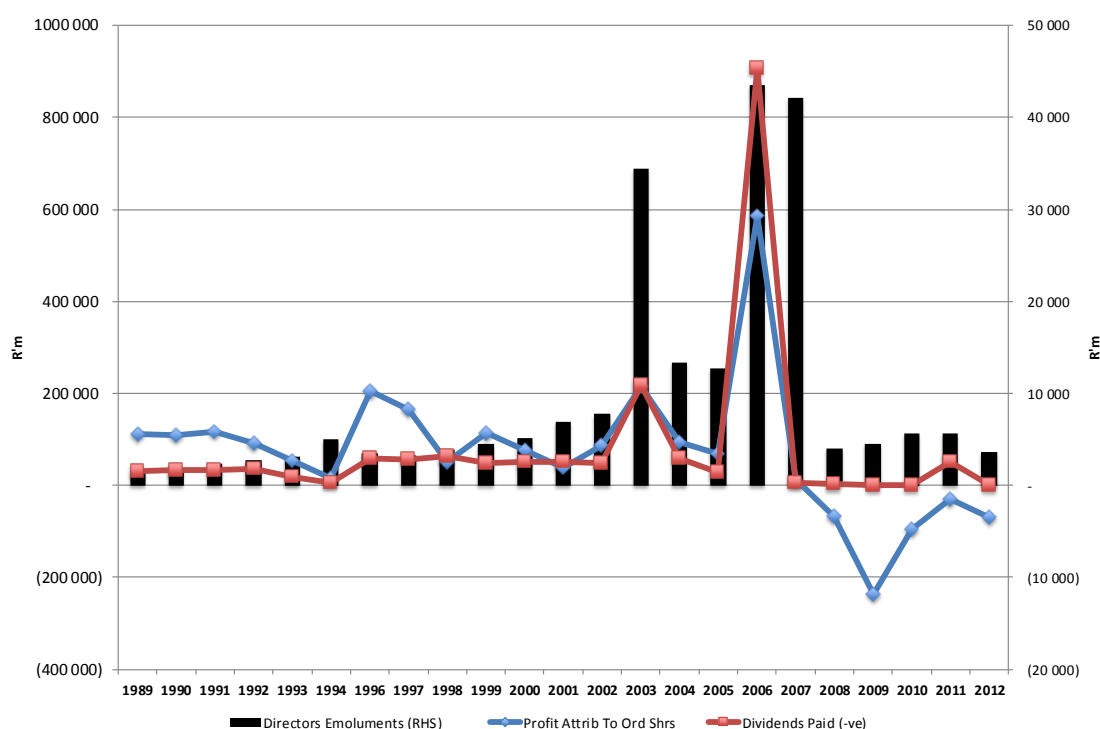


Source: Author's calculations based on McGregor's BFA (n.d.).

As reflected in the title of its 2003 annual report Dorbyl entered a phase of "Releasing value to shareholders" (Dorbyl 2003: 1) that saw the remainder of the

group decisively dismantled. The sale of automotive aftermarket distributor Midas was concluded and other major subsidiaries were sold off including Dorbyl Engineering, Global Roofing Solutions, Dorbyl Transport Products and Dorbyl Automotive Technologies.

Figure 8.9: Dorbyl profits, dividends and directors' remuneration (Rm), 1989 – 2012



Source: Author's calculations based on McGregor's BFA (n.d.).

It transpires that Dorbyl's dismemberment was the subject of a three-way agreement between shareholders Remgro and Allan Gray and three senior Dorbyl executives (Chief Executive Officer B Cooper, D Orwin and EJ Vorster) in the form of a "Management Participation Scheme established to reward executive directors for unlocking value within the Group" (Dorbyl 2006: 26). That is a select group of executives were incentivised *to sell off Dorbyl's businesses* (Moshidi 2011). Over the 2002-2007 period payments to directors surged, as reflected in Figure 8.9, even as turnover collapsed and profits dropped to zero in 2007 before turning to losses

thereafter. Between 2003 and 2007 R1.2bn was paid out in dividends to Remgro and other shareholders and R146m in executive remuneration (Dorbyl various years).

US roofing company Alpine was one of the businesses sold off under the MPS. In 2005 it was sold to a consortium led by US private equity firm Stonebridge for \$158.3m which "released significant value to shareholders" (Dorbyl 2005: 4). Of the R991m accrued R882m was distributed to shareholders as a special dividend (Dorbyl 2006). Seven months later Stonebridge sold Alpine for US\$250m. It transpired that Cooper was part of the Stonebridge consortium and received 2.5% of the profits from the sale (Mantshantsha 2006). Cooper and Orwin resigned in 2006 and the Remgro and Allan Gray directors in 2007. From 2008 to 2012 Dorbyl incurred annual losses, peaking at R238m in 2009. Dividends continued to be paid out: R3.4m in 2008 and R50.9 in 2011 despite these losses. Directors' remuneration remained within a band of R3.7m to R5.7m over this period. Dorbyl's listing was suspended in November 2012 and was ultimately delisted on 1 July 2014.

Thus Dorbyl, South Africa's largest ever engineering group, after its management failed to render either its manufacturing or import-based trading businesses profitable was dismantled through a collusive alliance between major shareholders Remgro and Allan Gray on the one hand and a coterie of senior executives.

8.6 Conclusions

This chapter has illustrated how conglomerate unbundling of the largest engineering subsidiaries has contributed to a pattern of underperformance and lost opportunities in the engineering sector. This has occurred in the context of a

growing gap between leading and follower global firms as a consequence of increasing consolidation, specialisation and scale as part of the GBBR process dominated by transnational corporations based in advanced economies. Thus there is a particular premium on developing countries being able to develop firms of international scale in segments of global value chains.

In the absence of a national strategy and policy instruments to support the reorientation and development of the capabilities that had been built up over the better part of a century within the engineering sector, restructuring was placed in the hands of the same conglomerates, and their increasingly vocal shareholders, that had been unable to render them partially or fully internationally competitive. The policies advocated by the large conglomerates entrenched the domestic demand constraint over the transition, through low fixed investment expenditure and increasing import competition.

Rather than transferring the three largest engineering or their constituent businesses to more capable ownership and management, the conglomerates pursued an effective strategy of short term asset stripping to “release shareholder value”. Anglo’s unbundling of Scaw and Boart effectively destroyed two of the largest engineering firms that had indeed developed global capabilities and scale, albeit not without significant weaknesses. The dismemberment by Remgro of the component parts of Dorbyl, foreclosed the possibility of a more orderly restructuring and reorientation, contributing to the hollowing out of the domestic engineering sector.

Chapter Nine

Conclusions

The birth of a democratic South Africa in 1994 came with high hopes that its remarkable peaceful transition to a constitutional democracy would be matched with an economic revival led by a more dynamic, diversified and jobs-rich pattern of industrialisation. Over the intervening two decades South African industrialisation performance has been mediocre, characterised by low levels of fixed investment in general and in “non-commodity” manufacturing in particular, weak export growth and declining manufacturing employment.

This thesis has critically interrogated and found wanting, through the prism of corporate and industrial restructuring in the steel and engineering sectors, a dominant orthodox consensus that gives pride of place in accounting for poor post-apartheid manufacturing performance of the continuity of extensive product and factor market distortions, compounded by skills deficits. Rather an alternate political economy framework emphasises how core political economy bargains gave rise to policies and institutions that have undermined prospects for the deepening of post-apartheid industrialisation. Specifically, it has traces largest conglomerates and increasingly influential institutional investors, secured policies as favourable as possible to unfettered capital restructuring, with narrow Black Economic Empowerment ownership transfers as the chief legitimisation mechanism for this arrangement. In the absence of any national strategy for the development of forward linkages out of steel and to reorient and develop engineering, the three largest business groups were effectively placed in charge of the restructuring of the steel and engineering sector. In the absence of any national strategy for the development

of forward linkages out of steel and to reorient and develop substantial, albeit not fully internationally competitive capabilities up in engineering, low public fixed investment, trade liberalisation, offshore listings and the uncritical embrace of foreign ownership contributed to a process of destructive restructuring and unbundling of engineering and the subordination of steel to the global strategies of new foreign owners. Emerging Black Economic Empowerment groups have shown little interest in fixed investment in manufacturing sectors such engineering, favouring ownership transfers of existing assets in more profitable sectors. Both mining policy and the procurement practices of SOEs have favoured shallow tie-ups between foreign OEMs and “empowered” sales operations that have facilitated engineering imports.

Two groups in particular have benefited from rents that have flowed from post-apartheid corporate restructuring: institutional investors and the beneficiaries of narrow Black Economic Empowerment asset transfers. These rent transfers have not been meaningfully deployed to raise levels of fixed investment or to alter their patterns in favour of more diversified manufacturing. Without detracting from real deficiencies in design and implementation, efforts since 2007 to mobilise industrial policies have been caught in a “pincer movement” between policies and institutional arrangements that have favoured these two sets of interests in particular. The battle over Sishen iron ore rents is illustrative of this “pincer movement” as well a relatively recent shift in which BEE has been invoked to legitimate a particularly predatory form of unproductive accumulation and associated patronage.

This thesis makes a novel contribution to debates over post-apartheid industrialisation in significant respects. It contributes to addressing an important

gap in scholarship, namely the paucity of detailed studies of the influence and agency of large business groups in shaping the trajectory of post-apartheid industrialisation, notwithstanding pervasive post-apartheid corporate and industrial restructuring. In doing so extensive primary quantitative and qualitative material was collected and analysed.

The thesis necessarily involved limitations imposed by the choices of which aspects of restructuring of steel and engineering to focus on. It excluded any detailed study of steel and engineering firms outside of the nexus of control of Anglo, Iscor and Rembrandt at the demise of apartheid. Post-apartheid statistical practices, involving the shift from manufacturing censi to surveys and to less granularity of industrial statistics also imposed limitations. An important area of investigation that was planned, but which was not feasible to examine in more detail was a more detailed evolution of the emergence of large BEE companies and the breadth and depth of their engagement with manufacturing in general and steel and engineering in particular. In addition, rapid developments with respect to the economy, the state and public institutions were unfolding in relation to “state capture” and new forms of patronage even as the research was being completed and written up. This made it difficult to fully incorporate in the thesis.

Flowing partly from the limitations of what could be researched, a number of areas for fruitful future research arise. Three in particular are highlighted. First, the thesis implies the need for substantial research to explore whether, to what extent and how industrial policy ought to adapt to the twin challenges of addressing structural transformation and racial exclusion in an economy with very open trade and capital markets. Second, there appears to be fruitful scope for cross-country comparisons

of South Africa with other middle income developing countries simultaneously grappling with efforts to advance structural transformation of the economy and a legacy of racial exclusion, with Malaysia being one of the most obvious comparators. Third, the thesis suggests the need to explore the sometimes perverse or unintended consequences, traditionally associated with state intrusion into markets, of neoliberal reforms even on their own narrow terms. For instance how such reforms, through the mechanisms mobilised for their legitimation, may lead to the rise rather than decline of unproductive rent-seeking and corruption.

Some tentative policy implications for South African industrialisation may however, be sketched. The research highlights the unproductive nature of South Africa's post-apartheid transition, manifested most starkly by low levels of private fixed investment and a failure of investment patterns to shift towards diversified manufacturing. This implies the need to rethink and revisit the bargains cast over the transition, recognising that the potential for the state to impose itself on capital is considerably weaker than it might have been in and around 1994. How then does the state strategise to advance structural transformation in the context of both a traditional corporate sector and emerging BEE sector oriented towards, short term investment horizons and a correspondingly limited appetite for long term and more productive fixed investment. The need to identify the potential for productive bargains in turn implies the development of industrial policy capabilities within and linked to the state to better understand, engage with and influence the orientation and strategies of dominant and influential business groups.

Bibliography

Primary sources

Corporate reports and documents

Anglo American

Annual reports

Anglo American, 2005a. *Anglo American Annual Report 2005*. [Online]. Accessed from: http://www.angloamerican.com/~media/Files/A/Anglo-American-PLC-V2/investors/a-reports/2005rep/2005-02-23b/annual_review_2004.pdf (accessed 10.27.14)

Anglo American, various years. *Annual Report*. [Online]. Accessed from: <http://www.angloamerican.com/investors/annual-reporting> (accessed 9.12.16).

Anglo American, various years. *Annual Report*. Johannesburg

Other corporate documents

Anglo American, 2016. History. [Online]. Accessed from: <http://www.angloamerican.com/about-us/history> (accessed 8.26.16).

Anglo American, 2014. *Anglo American plc Factbook 2014*. [Online]. Accessed from: <http://www.angloamerican.com/~media/Files/A/Anglo-American-PLC-V2/report-builder-2014/other-reports/fact-book-2014.pdf> (accessed 8.30.16).

Anglo American, 2012. Anglo American announces sale of Scaw South Africa to complete its Scaw Metals Group divestment. [Online] Accessed from: <http://www.angloamerican.com/media/releases/2012pr/2012-04-24.aspx> (accessed 7.30.14).

Anglo American, 2010. *Anglo American plc Factbook 2009/10*. [Online]. Accessed from: <http://china.angloamerican.com/~media/Files/A/Anglo-American-China/reports-and-publications/2010/aa-factbook-0910.pdf> (accessed 8.27.16).

Anglo American, 2009. *Anglo American plc Factbook 2008/9*. [Online]. Accessed from: http://www.angloamerican.com/~media/Files/A/Anglo-American-PLC-V2/investors/a-reports/2009rep/aa_09.pdf (accessed 8.27.16).

Anglo American, 2006. *Anglo American plc Factbook 2005/6*. [Online]. Accessed from: http://www.angloamerican.com/~media/Files/A/Anglo-American-PLC-V2/investors/a-reports/2006rep/fact_book_2005-06.pdf (accessed 8.30.16)

Anglo American, 2005b. Anglo American Announces Completion of Strategic Review, 2005. [Online]. Accessed from: <http://www.angloamerican.com/media/press-releases/2005/2005-10-26> (accessed 8.26.16).

Anglo American Industrial Corporation

Annual reports

Anglo American Industrial Corporation, 1997. *Annual Report 1997*. Johannesburg.

Anglo American Industrial Corporation, 1995. *Annual Report 1995*. Johannesburg.

Anglo American Industrial Corporation, 1994. *Annual Report 1994*. Johannesburg.

Anglo American Industrial Corporation, 1965. *Annual Report 1965*. Johannesburg.

Anglo American Industrial Corporation, 1964. *Annual Report 1964*. Johannesburg.

Anglo American Industrial Corporation, various years. *Annual Report*. Johannesburg.

ArcelorMittal Group

Annual reports

ArcelorMittal, various years. *Annual Report*. [Online]. Accessed from: <http://corporate.arcelormittal.com/investors/financial-reports/annual-reports> (accessed 12.5.14)

Other corporate documents

ArcelorMittal, 2013. Global R&D and Automotive highlights. [Presentation]. Accessed from: <http://corporate.arcelormittal.com/~media/Files/A/ArcelorMittal/investors/presentations/others/2013/R-D-presentation.pdf> (accessed 8.6.16)

ArcelorMittal, n.d. Our History. [Online]. Accessed from: <http://www.corporate.arcelormittal.com/who-we-are/our-history> (accessed 6.7.16)

Dorbyl

Annual reports

Dorbyl, 2006 *Annual Report 2006*. [Online]. Accessed from:
<https://www.whoownswhom.co.za/> (accessed 8.19.14)

Dorbyl, 2005. *Annual Report 2005*. [Online]. Accessed from:
<https://www.whoownswhom.co.za/> (accessed 8.19.14)

Dorbyl, 2003. *Annual Report 2003*. [Online]. Accessed from:
<https://www.whoownswhom.co.za/> (accessed 8.19.14)

Dorbyl, 2002. *Annual Report 2002*. [Online]. Accessed from:
<https://www.whoownswhom.co.za/> (accessed 8.19.14)

Dorbyl, various years. *Annual Report*. [Online]. Accessed from:
<https://www.whoownswhom.co.za/> (accessed 8.19.14)

Dorbyl, 2001. *Annual Report 2001*. Bedfordview

Dorbyl, 2000. *Annual Report 2000*. Bedfordview

Dorbyl, 1998. *Annual Report 1998*. Bedfordview

Dorbyl, 1996. *Annual Report 1996*. Bedfordview

Dorbyl, 1994. *Annual Report 1994*. Bedfordview

Dorbyl, various years. *Annual Report*. Bedfordview

Industrial Development Corporation

Annual reports

Industrial Development Corporation, 2002. *Annual Report 2002*. Sandton

Industrial Development Corporation, various years. *Annual Report*. Sandton

Other corporate documents

Industrial Development Corporation, 2015. Transforming SA's economy through black industrialists. [Online]. Accessed from: <http://www.idc.co.za/home/media-room/articles/849-transforming-sa%E2%80%99s-economy-through-black-industrialists.html> (accessed 10.13.16)

Iscor and ArcelorMittal South Africa

Annual reports

ArcelorMittal South Africa, 2014. *Annual Report 2014*. [Online]. Accessed from: <http://annualreport.arcelormittalsa.com/wp-content/uploads/2015/03/ArcelorMittal-2014-IAR.pdf> (accessed 8.23.16)

ArcelorMittal South Africa, various years. *Annual Report*. [Online]. Accessed from: <http://annualreport.arcelormittalsa.com> (accessed 8.23.16)

Iscor, 2002. *Annual Report 2002*. Pretoria.

Iscor, 2001. *Annual Report 2001*. Pretoria.

Iscor, 1996. *Annual Report 1996*. Pretoria.

Iscor, 1994. *Annual Report 1994*. Pretoria.

Iscor, 1989. *Annual Report 1984*. Pretoria.

Iscor, 1985. *Annual Report 1985*. Pretoria.

Iscor, 1984. *Annual Report 1984*. Pretoria.

Iscor, 1983. *Annual Report 1983*. Pretoria.

Iscor, 1978. *Annual Report 1978*. Pretoria.

Iscor, 1979. *Annual Report 1979*. Pretoria.

Iscor, 1969. *Annual Report 1969*. Pretoria.

Iscor, various years. *Annual Report*. Pretoria.

Other corporate documents

ArcelorMittal South Africa, n.d. *The History of ArcelorMittal South Africa*. [Online]. Accessed from: <http://www.arcelormittalsa.com/Portals/0/The-History-of-ArcelorMittal-South-Africa.pdf> (accessed 10.28.12)

Metkor

Annual reports

Metkor, various years. *Annual Report*. Sandton

Public Investment Corporation

Annual reports

Public Investment Corporation, 2015. *Integrated Annual Report 2015*. [Online]. Accessed from: <http://www.pic.gov.za/wp-content/uploads/2012/04/Integrated-Annual-Report-2015.pdf> (accessed 8.1.16)

Rembrandt and Remgro

Annual reports

Remgro, 2015. *Annual Report 2015*. [Online]. Accessed from: https://www.remgro.com/ar2015/pdf/Remgro_IAR_ENG_2015_WEB.pdf (accessed 9.2.16)

Remgro, various years. *Annual Report*. [Online]. Accessed from: <https://www.remgro.com> (accessed 9.2.16)

Remgro, n.d. Company History. [Online]. Accessed from: <https://www.remgro.com/about-remgro/history/>

Rembrandt, 1982. *Annual Report 1982*. Stellenbosch.

Rembrandt, various years. *Annual Report*. Stellenbosch.

Interviews

Anonymous 2015. Former Dorbyl Director. 8 August 2015

Bhikha, Sanjay. 2014. Former senior executive at Kagiso Investment Trust, 24 November 2014

Brunner, Paul. 2014. CEO Boart Longyear 2000–2008, 4 September 2014.

De Beer, 2013. Industrial Development Executive, South African Institute of Steel Construction and former MD of Dorbyl Structural Engineering, 9 October 2013.

Godsell, Bobby. 2016. Former Director Anglo American, 31 May 2016.

Hannemann, Markus. 2014. CEO Scaw Metals, 19 June 2014.

McGillivray, Alistair. Former Managing Director and shareholder in Aard Mining Equipment, 27 July 2015

Mostert, Dawid. 2014. Former CEO Dorbyl, 19 November 2014.

Wood, Colin. 2014. Deputy Chairman AMIC, Chairman LTA and Boart Longyear, 4 November 2014

Statistical sources

Department of Mineral Resources, n.d. Mineral Statistics. [Online]. Accessed from: <http://www.easydata.co.za> (accessed 11.7.17).

DTI Steel Pricing Database, n.d. *DTI Steel Pricing Database*.

McGregor's BFA, n.d. *McGregor's BFA*. [Online]. Accessed from: <http://expert.inetbfa.com> (accessed 10.27.14)

McGregor's, 1993. *Who Owns Whom*. McGregor's, Johannesburg.

McGregor's, various years. *Who Owns Whom*. McGregor's, Johannesburg.

Transnet, n.d. Locomotives procured (1965-2012).

Quantec Research, n.d. *South African Standardised Industry Indicator Database*. [Online]. Accessed from: <http://www.easydata.co.za> (accessed 8.15.17).

South African Reserve Bank, n.d. *South African Reserve Bank Quarterly Bulletin* [Online]. Accessed from: <http://www.easydata.co.za> (accessed 7.31.16).

Statistics South Africa, 2001. *Large sample survey of the manufacturing industry*. Statistical release P3002 [Online]. Accessed from: <http://www.statssa.gov.za/publications/Report-30-02-01/Report-30-02-012001.pdf> (accessed 8.17.17).

Statistics South Africa, 1993. *Standard industrial classification of all economic activities (SIC)*. Fifth Edition. Government Printer, Pretoria.

Statistics South Africa, n.d. *Short-term indicators*. [Online]. Accessed from: <http://www.easydata.co.za/> (accessed 8.15.17)

World Bank, n.d.-a *World Development Indicators*. [Online]. Accessed from: <http://www.easydata.co.za> (accessed 8.15.17).

World Bank, n.d.-b. *Doing Business database*. [Online]. Accessed from: <http://www.doingbusiness.org/data/exploretopics/labor-market-regulation> (accessed 10.15.16)

World Bank, n.d.-c. *World Development Indicators Global Economic Monitor (GEM) Commodities database*. [Online]. Accessed from: <http://databank.worldbank.org/data/reports.aspx?source=global-economic-monitor-commodities> (accessed 7.14.17)

World Steel Association, n.d. *World Steel Statistics*. [Online]. Accessed from: www.worldsteel.org/statistics/top-producers.html (accessed 10.15.15)

DTI policy documents, commissioned research reports and presentations

Policy documents

Department of Trade and Industry, 2015. *Black Industrialists Policy*, [Online]. Accessed from: https://www.thedti.gov.za/financial_assistance/docs/BI_Policy2015.pdf (accessed 7.5.17).

Department of Trade and Industry, 2013. *Industrial Policy Action Plan 2013/14 – 2015/16*. [Online]. Accessed from: http://www.thedti.gov.za/news2013/ipap_2013-2016.pdf (accessed 8.15.17)

Department of Trade and Industry, 2010. *Industrial Policy Action Plan*. Pretoria

Department of Trade and Industry, various years. *Industrial Policy Action Plan*. Pretoria

Department of Trade and Industry, 2007. *National Industrial Policy Framework*. [Online]. Accessed from: https://www.thedti.gov.za/industrial_development/docs/NIPF.pdf (accessed 7.5.17).

Research reports

Cramer, C., Sender, J., n.d. Opportunities for strategic intervention. Trade and Industrial Policy Strategies.

Jourdan, P., 2012. Ferrous MVC Report.

Letsema Strategy Services, 2010. Industrial Finance Report.

Presentations

Department of Trade and Industry 2016, On the Steel Industry Interventions, Presentation to the Joint Portfolio Committees on Trade and Industry and Economic Development, 23 August 2016 [Online] Accessed from: https://www.thedti.gov.za/parliament/2016/Steel_Industry_Interventions.pdf (accessed 8.3.17)

Department of Trade and Industry, 2010, DTI Response to Iron Ore, Steel and Steel Products Value Chain Matters, Portfolio Committee on Trade and Industry, 24 August 2010 [Online] Accessed from: https://www.thedti.gov.za/parliament/2016/Steel_Industry_Interventions.pdf (accessed 8.3.17)

Other government policy documents

Economic Development Department 2008, New Growth Path. [Online] Accessed from: <http://www.economic.gov.za/communications/publications/new-growth-path-series/download> (accessed 7.6.16)

National Planning Commission, 2012. *Our Future – Make It Work: National Development Plan, 2030*. [Online] Accessed from: <http://www.poa.gov.za/news/Documents/NPC%20National%20Development%20Plan%20Vision%202030%20-lo-res.pdf> (accessed 7.6.16)

Presidency, 2006. *Accelerated and Shared Growth Initiative - South Africa (ASGISA): A Summary*. [Online] Accessed from: http://www.thepresidency.gov.za/electronicreport/downloads/volume_4/business_case_viability/BC1_Research_Material/asgisa.pdf (accessed 7.6.16)

Public Protector, 2016. *State of Capture Report No: 6 of 2016/2017*. [Online] Accessed from: <https://mg.co.za/article/2016-11-02-breaking-read-the-full-state-capture-report> (accessed 6.14.17)

Legislation and legal proceedings

Legislation

Republic of South Africa, 2003, *Broad-Based Black Economic Empowerment Act 53 of 2003*. [Online] Accessed from: http://www.saflii.org/za/legis/num_act/bbeea2003311.pdf (accessed 8.14.17)

Republic of South Africa, 2002, *Mineral and Petroleum Resources Development Act 28 of 2002*. Accessed from: http://www.saflii.org/za/legis/num_act/maprda2002452.pdf (accessed 8.18.17)

Republic of South Africa, 1998, *Competition Act 89 of 1998*. Accessed from: http://www.saflii.org/cgi-bin/disp.pl?file=za/legis/num_act/ca1998149/ca1998149.html&query=competition%20act%201998 (accessed 8.18.17)

Legal proceedings

Competition Commission, 2016. ArcelorMittal to pay R1.5 billion fine for its involvement in cartels. Accessed from: <http://www.compcom.co.za/wp-content/uploads/2016/01/Press-release-ArcelorMittal-final-2.pdf> (accessed 8.18.17)

Competition Tribunal, 2004. Decision in Large Merger between LNM Holdings NV and Iscor Ltd. Case number: 08 LM Feb 04

Moshidi, J., 2011. Dorbyl Limited v Vorster (15260/06) ZAGPJHC 72 (28 July 2011).

Zondo, J., 2011. Sishen Iron Ore Company (Pty) Ltd and Another v Minister of Mineral Resources and Others (28980/10) ZAGPPHC 220 (20 December 2011).

Other reports and documents

Bankwatch, 2009. ArcelorMittal: Going nowhere slowly. A review of the global steel giant's environmental and social impacts in 2008-2009. [Online] Accessed from: http://bankwatch.org/documents/ArcelorMittal_Going_Nowhere.pdf (accessed 9.14.16).

Berenberg Equity Research, 2013. Mining machinery: Process plant exposure preferable to mining operations. [Online] Accessed from: https://www.berenberg.de/fileadmin/user_upload/berenberg2013/02_Investment_Banking/Equity_Research/2013_07_03_Mining_machinery_Capital_Goods.pdf. (accessed 6.13.16).

Boart Longyear n.d. History of Boart Longyear - Innovating for over 125 years. [Online] Accessed from: <http://www.boartlongyear.com/company/corporate-profile/history/> (accessed 8.28.14).

Industrial Development Corporation, 2014, Presentation.

Industrial Development Corporation, 2000. *The South African Downstream Carbon Steel Industry*. Sandton

Industriall 2008, Methane blast kills at least 23 at ArcelorMittal Coal mine in Kazakhstan. [Online] Accessed from: <http://www.industriall-union.org/es/node/9775> (accessed 11.29.16).

Intellidex, 2015. The value of BEE deals. [Online] Accessed from: <http://www.intellidex.co.za/wp-content/uploads/2015/06/Intellidex-report-The-Value-of-BEE-Deals.pdf> (accessed 8.10.17).

KPMG and SAVCA, 2015. Venture Capital and Private Equity Industry Performance Survey of South Africa. [Online] Accessed from: <http://www.savca.co.za/wp-content/uploads/2013/08/KPMG-SAVCA-Private-Equity-Industry-Survey-2015-final-upload.pdf> (accessed 7.28.16).

Magotteaux, 2011. IK to sell Magotteaux to Sigdo Koppers. [Online] Accessed from: <http://www.magotteaux.com/press-releases/ik-to-sell-magotteaux-to-sigdo-koppers/> (accessed 7.31.15).

- Mining Magazine, 1995. Rock drills made in South Africa. 3 January 1995. [Online] Accessed from: <http://www.versalifteast.com/articles/rockdrills.htm> (accessed 9.14.16)
- Old Mutual, 2016. Who owns the JSE?, [Online]. Accessed from <http://ww2.oldmutual.co.za/old-mutual-investment-group/insights/magazines/tomorrow-2016/who-owns-the-jse> (accessed 8.14.17)
- OneSteel, 2012. OneSteel Mining Consumables Presentation. [Online] Accessed from: <https://www.arrium.com/~media/Arrium%20Mining%20and%20Materials/Files/Presentations/FYEnd2012/Mining%20Consumables%20Analyst%20Presentation%2021%20March%202012%20ASX%20release.pdf> (accessed 7.31.15)
- RMB Holdings, n.d. Our History. [Online] Accessed from: <http://rmh-online.co.za/our-background/our-history/> (accessed 8.18.17).
- Shand, N., 2016 The liquor industry. [Online]. *McGregor's Who Owns Whom*. Accessed from: <http://www.whoownswhom.co.za/>. (accessed 7.3.16).
- South African History Online, 2017. Marikana Massacre 16 August 2012. [Online] Accessed from: <http://www.sahistory.org.za/article/marikana-massacre-16-august-2012> (accessed 8.16.17) South African Iron and Steel Institute, n.d. History of the South African Primary Steel Industry. [Online] Accessed from: <http://www.saisi.co.za/attachments/article/203/History%20of%20the%20South%20African%20primary%20steel%20industry.pdf>. (accessed 8.21.15)
- Steel and Engineering Industries Federation of South Africa, 2003. *Strength in Diversity: SEIFSA 60 Years Anniversary Celebration 1943-2003*.

News and other media sources

- amaBhungane and Scorpio, 2017. #GuptaLeaks: Guptas and associates score R5.3bn in locomotives kickbacks. [Online] Accessed from: <http://amabhungane.co.za/article/2017-06-01-guptaleaks-guptas-and-associates-score-r53bn-in-locomotives-kickbacks> (accessed 8.19.17)
- Cohen, T., 2008. Samancor's BEE deal runs the legal gauntlet. [Online]. *Moneyweb*. Accessed from: <https://www.moneyweb.co.za/archive/samancors-bee-deal-runs-the-legal-gauntlet/> (accessed 8.16.17)
- Creamer, M. 2016. At last, residual mining right returned to Kumba Iron Ore's Sishen. [Online]. *Mining Weekly*. Accessed from: <http://www.miningweekly.com/article/at-last-residual-mining-right-returned-to-kumba-iron-ores-sishen-2016-10-13>. (accessed 8.16.17)
- Creamer, T., 2015. SAA sets target of buying R10bn from black-owned firms by 2018 [Online]. *Engineering News*. Accessed from:

- <http://www.engineeringnews.co.za/article/saa-sets-target-of-buying-r10bn-from-black-owned-firms-by-2018-2015-05-18> (accessed 7.5.17)
- Creamer, T., 2007. Scaw BEE deal incorporates some R200m in expansionary capital. [Online]. *Engineering News*. Accessed from: <http://www.engineeringnews.co.za/article/scaw-bee-deal-incorporates-some-r200m-in-expansionary-capital-2007-03-16> (6.15.16)
- Crotty, A., 2015. R100bn splurge on share buybacks. [Online]. *Sunday Times*. Accessed from: <http://www.timeslive.co.za/businesstimes/2015/04/19/r100bn-splurge-on-share-buybacks> (accessed 8.21.15)
- Donnelly, L., How Amsa Outwitted DTI. [Online] *The M&G Online* Accessed from: <https://mg.co.za/article/2010-08-13-how-amsa-outwitted-dti/> (accessed 8.16.17)
- Faull, L. 2013, Concourt puts Sishen mining right dispute to bed. [Online]. *Mail & Guardian*. Accessed from: <http://mg.co.za/article/2013-12-12-concourt-puts-sishen-mining-right-dispute-to-bed> (accessed 8.16.17)
- Financial Mail, 2013. Kagiso Tiso Holdings: taking the lead with a unique growth strategy, [Online]. Accessed from: http://kth.co.za/pdf/fm_corp_profile.pdf 2013. Financial Mail. (accessed 2.3.15)
- Friedman, S., 2017. The odd meaning of 'radical economic transformation' in South Africa. [Online]. *The Conversation*. Accessed from: <https://theconversation.com/the-odd-meaning-of-radical-economic-transformation-in-south-africa-73003> (accessed 7.28.17)
- Friedman, S., 2016 Economic exclusion feeds the politics of patronage in South Africa. [Online]. *The Conversation*. Accessed from: <https://theconversation.com/economic-exclusion-feeds-the-politics-of-patronage-in-south-africa-69996> (accessed 6.28.17)
- Gapper, J., 2016. A requiem for the octopus of South Africa. [Online]. *Financial Times*. Accessed from: <https://next.ft.com/content/5ba52f88-d55d-11e5-829b-8564e7528e54> (accessed 2.18.16)
- Hill, M. 2008. Kermas SA to reallocate shares in Samancor BEE deal following dispute. [Online]. *Engineering News*. Accessed from: <http://www.engineeringnews.co.za/article/kermas-sa-to-reallocate-shares-in-samancor-bee-deal-following-dispute-2008-06-23> (accessed 8.16.17)
- Mohamed, M. 2010. Goldman Sachs and SA's economic policy. [Online]. *Engineering News*. <http://www.engineeringnews.co.za/article/goldman-sachs-and-sas-economic-policy-2010-04-29> (accessed 4.20.16)
- Paton, C., 2012 ArcelorMittal SA fumes over state's policy snub, [Online]. *Business Day*. Accessed from: <http://www.arcelormittalsa.com/Portals/0/ArcelorMittal%20SA%20fumes%20over%20state%27s%20policy%20snub.pdf> (accessed 8.16.17)

- Seccombe, A., 2013. Business, Mandela meetings yielded pragmatism. [Online]. Business Day. Accessed from: <https://www.pressreader.com/south-africa/business-day/20131209/281487864154208> (accessed 8.17.17)
- Steyn, L., 2013. End of Sishen Saga Cast in Iron [Online] *Mail & Guardian* Accessed from: <https://mg.co.za/article/2013-12-20-end-of-sishen-saga-cast-in-iron> (accessed 8.16.17).
- Thomas, S., 2014. Share buy-backs a two-edged sword. [Online]. *Financial Mail*. Accessed from: <http://www.financialmail.co.za/moneyinvesting/2014/05/22/share-buy-backs-a-two-edged-sword> (accessed 8.27.16)
- Wilson, J. 2015. Anglo American to write down value of mining assets by up to \$4bn. [Online], *Financial Times*. Accessed from: <https://www.ft.com/content/25664e40-2b88-11e5-acfb-cbd2e1c81cca> (accessed 8.18.17)
- Wright, R., 2014 Aluminium threatens steel's dominance of the car industry [Online], *Financial Times*. Accessed from: <http://www.ft.com/cms/s/0/7c671aac-4372-11e4-be3f-00144feabdc0.html> (accessed 6.8.16).
- Zackiewicz, A., 2015. 'LVMH, Richemont Top List of Biggest Fashion Firms by Market Cap', [Online] *WWD* Accessed from: <http://wwd.com/business-news/financial/lvmh-richemont-fashion-apparel-ranking-10303382/> (accessed 8.18.17)

Secondary sources

- Abramovitz, M., 1986. Catching up, forging ahead, and falling behind. *The Journal of Economic History* 46(2), 385–406.
- Acemoglu, D., Gelb, S., Robinson, J.A., 2007. Black economic empowerment and economic performance in South Africa. Cambridge, MA: *Center for Economic Development, Working Paper*.
- Adelzadeh, A., 1996. From the RDP to Gear: The gradual embracing of neo-liberalism in economic policy. *Transformation* 31, 66–95.
- Aghion, P., Braun, M., Fedderke, J., 2008. Competition and productivity growth in South Africa. *Economics of Transition* 16(4), 741–768.
- Aghion, P., Fedderke, J., Howitt, P., Vieg, N., 2013. Testing creative destruction in an opening economy: The case of the South African manufacturing industries. *Economics of Transition* 21(3), 419–450.
- Akyüz, Y., Gore, C., 1996. The investment-profits nexus in East Asian industrialization. *World Development* 24(3), 461–470.
- Allen, M., 2004. The varieties of capitalism paradigm: not enough variety? *Socio-Economic Review* 2(1), 87–108.
- Amin, A., 1989. Flexible Specialisation and Small Firms in Italy: Myths and Realities. *Antipode* 21(1), 13–34.
- Amsden, A.H., 2009. Nationality of Firm Ownership in Developing Countries: Who Should “Crowd Out” Whom in Imperfect Markets?, in: Cimoli, M. et al. (eds.), 2009. *Industrial Policy and Development: the Political Economy of Capability Accumulation*. Oxford University Press, 409–423.
- Amsden, A.H., 2001. *The Rise of “The Rest”: Challenges to the West from Late-Industrializing Economies*. Oxford University Press.
- Amsden, A.H., 1989. *Asia’s Next Giant: South Korea and Late Industrialization*. Oxford University Press.
- Amsden, A.H., Hikino, T., 1994. Project execution capability, organizational know-how and conglomerate corporate growth in late industrialization. *Industrial and Corporate Change*. 3(1), 111–147.
- Amsden, A.H., Singh, A., 1994. The optimal degree of competition and dynamic efficiency in Japan and Korea. *European Economic Review*, 38(3), 941–951.
- Ashman, S., Fine, B., 2013. Neo-liberalism, varieties of capitalism, and the shifting contours of South Africa’s financial system. *Transformation: Critical Perspectives on Southern Africa*. 81(1), 144–178.
- Ashman, S., Fine, B., Newman, S., 2013a. Systems of accumulation and the evolving South African MEC, in: Fine, B., Saraswati, J., Tavasac, D., (eds.) *Beyond the*

Developmental State: Industrial Policy into the Twenty-First Century, Political Economy and Development. Pluto Press, London.

- Ashman, S., Fine, B., Newman, S., 2011. The crisis in South Africa: Neoliberalism, financialization and uneven and combined development. *Socialist Register*, 47(47), 174-195.
- Ashman, S., Mohamed, S., Newman, S., 2013b. The financialisation of the South African economy and its impact on economic growth and employment. *UNDESA Project: Strengthening National Capacities to Design and Implement Development Strategies for Inclusive, Equitable Growth and Sustainable Development Project*.
- Balassa, B., 1982. Disequilibrium analysis in developing economies: An overview. *World Development*, 10(12), 1027-1038.
- Banerjee, A., Deaton, A., Lustig, N., Rogoff, K., Hsu, E., 2006. *An Evaluation of World Bank Research, 1998-2005*.
- Barnes, J., Black, A., 2013, May. The Motor Industry Development Programme 1995–2012: What have we learned. In *International Conference on Manufacturing-led Growth for Employment and Equality*, 1-38
- Barnes, J., Morris, M., 2008. Staying alive in the global automotive industry: what can developing economies learn from South Africa about linking into global automotive value chains? *The European Journal of Development Research* 20(1), 31–55.
- Barr, G., Gerson, J., Kantor, B., 1995. Shareholders as agents and principals: The Case for South Africa's corporate governance system. *Journal of Applied Corporate Finance* 8(1), 1–32.
- Belli, P., Finger, M., Ballivian, A., 1993. *South Africa - A Review of Trade Policies* (Discussion Paper No. 4), Informal Discussion Papers on Aspects of the Economy of South Africa. *World Bank, Southern Africa Department, Washington, D.C.*
- Bell, T., 1995. Improving Manufacturing Performance in South Africa: A Contrary View. *Transformation: Critical Perspectives on Southern Africa*. (28)
- Bell, T., 1993. Should South Africa further liberalise its foreign trade? in: Lipton, M., Simkins, C.E.W. (eds.) *State & Market: In Post Apartheid South Africa*. Witwatersrand University Press
- Bell, T., Farrell, G., 1997. The mineral-energy complex and South African industrialisation. *Development Southern Africa* 14(4), 591–613.
- Beresford, A., 2015. Power, patronage, and gatekeeper politics in South Africa. *African Affairs*, 114(455), pp.226-248.
- Bhagwati, J.N., 2002. *Free Trade Today*. Princeton University Press.

- Bhagwati, J.N., Srinivasan, T.N., 1982. The welfare consequences of directly-unproductive profit-seeking (DUP) lobbying activities: Price versus quantity distortions. *Journal of International Economics*, 13(1), 33-44.
- Bhorat, H., Buthelezi, M., Chipkin, I., Duma, S., Mondli, L., Peter, C., Qobo, M., Swilling, S., Friedenstein H. (independent journalist - pseudonym), Betrayal of the Promise: How the Nation is Being Stolen, *State Capacity Research Project*. [Online] Accessed from: <http://pari.org.za/wp-content/uploads/2017/05/Betrayal-of-the-Promise-25052017.pdf> (accessed 6.14.17).
- Bhorat, H., Cassim, A., Hirsch, A., 2014. *Policy co-ordination and growth traps in a middle-income country setting: The case of South Africa* (No. 155). World Institute for Development Economic Research (UNU-WIDER).
- Bhorat, H., Hirsch, A., Kanbur, S.M.R., Ncube, M. (Eds.), 2014. *The Oxford Companion to the Economics of South Africa*, Oxford University Press, Oxford.
- Blankenburg, S., Palma, J.G., Tregenna, F., 2008. Structuralism, in: Durlauf, S.N., Blume, L.E. (eds.), *The New Palgrave Dictionary of Economics*. Nature Publishing Group, Basingstoke, 69–74.
- Bond, P., 2013. Sub-imperialism as lubricant of neoliberalism: South African 'deputy sheriff' duty within BRICS. *Third World Quarterly*, 34(2), 251-270.
- Burrows, L., Botha, A., 2013. Explaining the changing input-output multipliers in South Africa: 1980-2010. In *Biennial Conference of the Economic Society of South Africa*, Bloemfontein.
- Butler, A., 2010. Consolidation first: Institutional reform priorities in the creation of a developmental state in South Africa, in: *Constructing a Democratic Developmental State in South Africa Potentials and Challenges*. HSRC Press, Cape Town.
- Cargill, J., 2010. *Trick or Treat: Rethinking Black Economic Empowerment*. Jacana Media.
- Carmody, P., 2002. Between globalisation and (post) apartheid: The political economy of restructuring in South Africa. *Journal of Southern African Studies* 28(2), 255–275.
- Capps, G., 2012. A bourgeois reform with social justice? The contradictions of the Minerals Development Bill and Black Economic Empowerment in the South African platinum mining industry. *Review of African Political Economy*. 39(132), 315-333.
- Cassim, R., 2006. Reflections on South Africa's first wave of economic reforms, in: Padayachee, V., (ed.) *The Development Decade? Economic and Social Change in South Africa, 1994–2004*. HSRC Press, Cape Town.
- Central Economic Advisory Service, 1993. *The restructuring of the South African economy: a normative model approach*. Central Economic Advisory Service, Pretoria.

- Cattaneo, N., 2011. A review of methodological approaches used to analyse the impact of trade liberalisation on growth and poverty in South Africa. *South African Institute of International Affairs*
- Chabane, N., Goldstein, A., Roberts, S., 2006. The changing face and strategies of big business in South Africa: more than a decade of political democracy. *Industrial and Corporate Change* 15(3), 549–577.
- Chabane, N., Machaka, J., Molaba, N., Roberts, S. and Taka, M., 2003. 10 year review: Industrial structure and competition policy. *Corporate Strategy and Industrial Development research project*.
- Chandler, A., 1992. What is a firm?: A historical perspective. *European Economic Review* 36(2-3), 483–492.
- Chandler, A.D., 1994. *Scale and Scope: Dynamics of Industrial Capitalism*, Harvard University Press, Cambridge, Mass.
- Chandler, A., Amatori, F., Hikino, T. (eds.), 1999. *Big Business and the Wealth of Nations*, Cambridge University Press.
- Chang, H.-J., 2002. *Kicking Away the Ladder: Development Strategy in Historical Perspective*. Anthem Press.
- Chang, H.-J., 1993. *The Political Economy of Industrial Policy*. Palgrave Macmillan, London.
- Chenery, H.B., Robinson, S., Syrquin, M., 1986. *Industrialization and growth*. Washington: World Bank.
- Chenery, H., Syrquin, M., 1975. Patterns of development 1950-1970 (No. 11913). The World Bank.
- Chibber, V., 2003. *Locked in Place: State-building and Late Industrialization in India*. Princeton University Press.
- Chipanda, B., 2016 Opportunities for strategic intervention in the South African agricultural sector: Trade and employment. (Policy Brief 7/2016). *Trade and Industrial Policy Strategies* [Online]. URL: http://www.tips.org.za/policy-briefs/item/download/1238_78510e5ee81d8a43c452a70b3b396492 [accessed 7.8.17].
- Christie, R., 1984. *Electricity, Industry, and Class in South Africa*. State University of New York Press, Albany, N.Y.
- Clark, N., 2014. Structured inequality: Historical realities of the post-apartheid economy. *Ufahamu: A Journal of African Studies* 38(1).
- Clark, N., 1994. *Manufacturing Apartheid: State Corporations in South Africa*. Yale University Press.
- Clark, N., 1987. South African state corporations: “The death knell of economic colonialism”? *Journal of Southern African Studies* 14(1), 99–122.

- Coase, R.H., 1937. The nature of the firm. *Economica*. 4(16), 386–405.
- Coase, R.H., 2013. The problem of social cost. *The Journal of Law and Economics* 56(4), 837-877.
- Crompton, R., Fessehaie, J., Kaziboni, L., Zengeni, T., 2017. Railway Locomotives and Transnet: A Case Study. CCRED Working Paper 9. *Centre for Competition Regulation and Economic Development*. [Online] Accessed from: http://www.competition.org.za/s/CCRED-Working-Paper-9_2017_IDRP-Transnet.pdf (accessed 8.15.17)
- Cross, T., 1994. Afrikaner nationalism, Anglo American and Iscor: The formation of the Highveld Steel & Vanadium Corporation, 1960–70. *Business History* 36(3), 81–99.
- Dasgupta, S., Singh, A., 2005. Will services be the new engine of Indian economic growth? *Development and Change*, 36(6), 1035-1057.
- Department of Finance, 1996. *Growth, Employment and Redistribution: A Macroeconomic Strategy*.
- Deraniyagala, S., Fine, B., 2001. New trade theory versus old trade policy: a continuing enigma. *Cambridge Journal of Economics*, 25(6), 809-825.
- Di John, J., 2009. *From Windfall to Curse?: Oil and Industrialization in Venezuela, 1920 to the Present*. Penn State Press.
- Di John, J., Putzel, J., 2009. Political settlements: Issues paper. *Governance and Social Development Resource Centre*.
- Dommissie, E., Esterhuyse, W.P., 2009. *Anton Rupert: A Biography*. Tafelberg, Cape Town.
- Du Plessis, S., Smit, B., 2007. South Africa's growth revival after 1994. *Journal of African Economics* 16(5), 668–704.
- Edwards, L., 2005. Has South Africa liberalised its trade? *South African Journal of Economics* 73(4), 754–775.
- Edwards, L., 2004. A firm level analysis of trade, technology and employment in South Africa. *Journal of International Development*. 16(1), 45-61.
- Edwards, L., 2001. Globalisation and the skills bias of occupational employment in South Africa. *South African Journal of Economics*. 69(1), 40-71.
- Edwards, L., Golub, S.S., 2004. South Africa's international cost competitiveness and exports in manufacturing. *World Development*. 32(8), 1323-1339.
- Edwards, L., Lawrence, R., 2008. South African trade policy matters: trade performance and trade policy. *Economics of Transition*. 16(4), 585–608.
- Edwards, L., Van de Winkel, T., 2005. The market disciplining effects of trade liberalisation and regional import penetration on manufacturing in South Africa (Working Paper No. 1-2005). *Trade and Industrial Policy Strategies*.

- Epstein, G.A., 2006. Introduction: Financialization and the world economy, in: Epstein, G.A. (ed.), *Financialization and the World Economy*. Edward Elgar Publishing Ltd. 3–16.
- Evans, P.B., 1995. *Embedded Autonomy: States and Industrial Transformation*. Princeton University Press, Princeton, N.J.
- Fallon, P., de Silva, L.A.P., 1994. South Africa: Economic performance and policies (Discussion Paper No. 7), *Informal Discussion Papers on Aspects of the South African Economy*. World Bank, Washington, D.C.
- Faulkner, D., Loewald, C., Makrelov, K., 2013. Achieving higher growth and employment: Policy options for South Africa. *South African Reserve Bank Working Paper*. 13(03).
- Fama, E.F., Jensen, M.C., 1983. Separation of ownership and control. *The Journal of Law and Economics*. 26(2), 301-325.
- Fedderke, J.W., 2013. Competition, industrial structure and economic growth (Working Paper No. 330). *Economic Research Southern Africa*.
- Fedderke, J., Kularatne, C., Mariotti, M., 2007. Mark-up Pricing in South African Industry. *Journal of African Economies*, 16(1), 28-69.
- Fedderke, J.W., Schaling, E., 2005. Modelling inflation in South Africa: a multivariate cointegration analysis. *South African Journal of Economics*, 73(1), 79-92.
- Fedderke, J., Vaze, P. 2001 The Nature of South Africa's Trade Patterns by Economic Sector, and The Extent of Trade Liberalization During the Course of the 1990s, *South African Journal of Economics*, 69(3), 436–478.
- Feinstein, C.H., 2005. *An Economic History of South Africa: Conquest, Discrimination, and Development*. Cambridge University Press, New York.
- Fine, B., 2010. Can South Africa be a developmental state, in: Edigheji, O. (ed.), *Constructing a Democratic Developmental State in South Africa: Potentials and Challenges*, Human Sciences Research Council, Cape Town, 169-182.
- Fine, B., 2009a. Submission to the COSATU panel of economists on “The final recommendations of the international panel on growth” (the Harvard Panel). *Transformation: Critical Perspectives on Southern Africa*, 69(1), 5–30.
- Fine, B., 2009b. Rejoinder to “A response to Fine’s ‘Harvard group shores up shoddy governance.’” *Transformation: Critical Perspectives on Southern Africa*, 69(1), 66–80.
- Fine, B., 2009c. Neo-liberalism in retrospect? – It’s financialisation, stupid. Presented at the Developmental Politics in the Neo-Liberal Era and Beyond, Center for Social Sciences, Seoul National University.
- Fine, B., 2001. Neither the Washington nor the post-Washington consensus: an introduction, in: Fine, B., Lapavistas, C., Pincus, J., (eds.), *Development Policy*

in the 21st century: Beyond the post-Washington Consensus. Routledge, London., 1-27.

- Fine, B., 1997. Vertical relations in the South African steel industry [Online]. Accessed from: <http://eprints.soas.ac.uk/9585/> (accessed 12.7.12).
- Fine, B., 1995. Flexible production and flexible theory: the case of South Africa. *Geoforum*, 26(2), 107-119.
- Fine, B., Van Waeyenberge, E., 2013. A paradigm shift that never was: Justin Lin's new structural economics. *Competition & Change*, 17(4), 355-371.
- Fine, B., Rustomjee, Z., 1998. Debate 1: Debating the South African minerals - energy complex: A response to Bell and Farrell. *Development Southern Africa*, 15(4), 689-701.
- Fine, B., Rustomjee, B.F.Z., 1996. *The Political Economy of South Africa: From Minerals-energy Complex to Industrialisation*. C. Hurst & Co. Publishers.
- Fine, B., Rustomjee, Z., 1995. Afrikaner nationalism, Anglo American and Iscor: The formation of the Highveld Steel & Vanadium Corporation 1960-70. *Business History* 37, 111-114.
- Fishlow, A. Gerschenkron, Alexander (1904-1978), in: Durlauf, S.N., Blume, L.E (Eds.) *The New Palgrave Dictionary of Economics*. Second Edition. Palgrave Macmillan, 2008. The New Palgrave Dictionary of Economics Online. Palgrave Macmillan. [Online]. Accessed from: http://www.dictionaryofeconomics.com/article?id=pde2008_G000033 (accessed 13.12.16)
- Flatters, F., 2005. The economics of MIDP and the South African motor industry. *Trade and Industrial Policies Strategies*. Accessed from: http://qed.econ.queensu.ca/pub/faculty/flatters/writings/ff_economics_of_midp.pdf (accessed 8.15.17)
- Forrest, K., 2011. *Metal that Will Not Bend: The National Union of Metal Workers of South Africa, 1980-1995*. Wits University Press.
- Freund, B., forthcoming. *The Rise and Decline of a Developmental State in South Africa 1910-90*. Cambridge University Press
- Freund, B., 2010. The significance of the minerals-energy complex in the light of South African economic historiography. *Transformation: Critical Perspectives on Southern Africa*, 71(1), 3-25.
- Froud, J., Johal, S., Leaver, A., Williams, K., 2006. *Financialization and strategy: Narrative and numbers*. Routledge.
- Gelb, S., 1991. South Africa's economic crisis: an overview, in: Gelb, S. (ed.) *South Africa's Economic Crisis*. D. Philip, Cape Town.
- Gerschenkron, A., 1962. *Economic Backwardness in Historical Perspective: A Book of Essays*. Harvard University Press, Cambridge, MA.

- Giarratani, F., Madhavan, R., Gruver, G., 2012. Steel Industry Restructuring and Location. *Handbook of Industry Studies and Economic Geography*.
- Gibson, R., 1996. *Nerves of Steel*. Haggie.
- Gilliomee, H., 1992. "Broedertwis": Intra-Afrikaner conflicts in the transition from apartheid. *African Affairs*, 91(364), 339–364.
- Goldstein, A., 2010. Business groups in South Africa, in: Colpan, A.M., Hikino, T., Lincoln, J.R. (eds.), *The Oxford Handbook of Business Groups*. Oxford University Press.
- Gray, H., 2016 Access Orders and the 'New' New Institutional Economics of Development. *Development and Change*, 47(1), 51–75.
- Gray, H., Khan, M., 2010. Good governance and growth in Africa in: Padayachee, V. (ed.), *The Political Economy of Africa*. Routledge, 339–356.
- Gray, H., Whitfield, L., 2014. Reframing African political economy: Clientelism, rents and accumulation as drivers of capitalist transformation. [Online] Accessed from <http://eprints.lse.ac.uk/61252/> (accessed 8.19.17)
- Habib, A., Padayachee, V., 2000. Economic policy and power relations in South Africa's transition to democracy. *World Development* 28(2), 245–263.
- Hall, P.A., Soskice, D. (eds.), 2001. *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*. Oxford University Press, Oxford.
- Rustomjee, Z., Hanival, S., 2008. A review of industry policy, instruments and support programmes: 1994-2008: a contribution to the Presidency's 15-year review of government performance. From Presidency, "Towards a Fifteen Year Review".
- Hart, K., Padayachee, V., 2013. A history of South African capitalism in national and global perspective. *Transformation: Critical Perspectives on Southern Africa*, 81(1), 55-85.
- Hart, O., 1989. An economist's perspective on the theory of the firm. *Columbia Law Review*, 89(7), 1757–1774.
- Hassan, S., 2013. South African capital markets: An overview (Working Paper No. WP/13/04), *South African Reserve Bank Working Paper Series*. South African Reserve Bank, Pretoria.
- Hausmann, R., 2008. Final recommendations of the international panel on ASGISA (No. 161). *Center for International Development at Harvard University*.
- Hausmann, R., Rodrik, D., 2006. Doomed to choose: Industrial policy as predicament. *John F. Kennedy School of Government*.
- Hausmann, R., Rodrik, D., 2003. Economic development as self-discovery. *Journal of Development Economics*, 72(2), 603-633.

- Hausmann, R., Rodrik, D., Sabel, C.F., 2008. Reconfiguring Industrial Policy: A Framework with an Application to South Africa. *Harvard University, John F. Kennedy School of Government*.
- Hausmann, R., Hwang, J., Rodrik, D., 2005. What you export matters (Working Paper No. 11905). National Bureau of Economic Research.
- Hawthorne, R., Roberts, S., Teljeur, E., 2005. A case study of the impact of competition law and policy on South Africa's investment climate and competitiveness: the Iron & Steel sector. *CSID working paper*
- Hirsch, A., 2005. *Season of Hope: Economic Reform Under Mandela and Mbeki*, University of KwaZulu-Natal Press.
- Hirschman, A.O., 1981 "A Generalized Linkage Approach to Development, with Special References to Staples" in *Essays in Trespassing*, 59–96. Cambridge: Cambridge University Press. in Adelman, J. 2013. *The Essential Hirschman*. Princeton University Press.
- Hirschman, A.O., 1971 "Political Economics and Possibilism" in *Bias for Hope: Essays on Development and Latin America*. New Haven: Yale University Press. in Adelman, J. 2013. *The Essential Hirschman*. Princeton University Press.
- Hirschman, A.O., 1968. The political economy of import-substituting industrialization in Latin America. *The Quarterly Journal of Economics*, 82(1), 1-32.
- Hirschman, A.O., [1958]1988. *The Strategy of Economic Development*. Westview Press, Boulder.
- Holden, M., 1992. Trade reform: Finding the right road. *South African Journal of Economics* 60(3), 149–156.
- Howard, T., 1996. *Diamond Year: A Celebration of the Boart Longyear Group*. Boart Longyear Limited, Sandton.
- Iheduru, O.C., 2004. Black economic power and nation-building in post-apartheid South Africa. *The Journal of Modern African Studies*, 42(1), 1-30.
- Iliffe, J., 1999. The South African economy, 1652-1997. *The Economic History Review* 52(1), 87–103.
- Innes, D., 2007. Chapter 6: History and structure of the South African economy, in: Marcus, G., (ed.) *Visions of Black Economic Empowerment*. Jacana Media, Auckland Park, South Africa.
- Innes, D., 1984. *Anglo American and the Rise of Modern South Africa*. Ravan Press, Johannesburg.
- Isaacs, G., 2014. The Myth of 'Neutrality' and the Rhetoric of 'Stability': Macroeconomic Policy in Democratic South Africa. *PERSA: Political Economy of Restructuring in South Africa* (No. 1). Working Paper.

- Jenkins, R., 2008. Trade, technology and employment in South Africa. *The Journal of Development Studies*, 44(1), 60-79.
- Jensen, M.C. and Meckling, W.H., 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Joffe, A., Kaplan, D., Kaplinsky, R., Lewis, D., 1995. *Improving Manufacturing Performance in South Africa: The Report of the Industrial Strategy Project*. UCT Press.
- Joffe, A., Kaplan, D., Kaplinsky, R., Lewis, D., 1993. Meeting the global challenge: a framework for industrial revival in South Africa, in Baker, P et al. (eds.) *South Africa and the World Economy in the 1990s*. David Philip, Cape Town
- Johnson, C., 1999. The developmental state: odyssey of a concept, in: Woo-Cummings, M., (ed.) 1999. *The Developmental State*. Cornell University Press, 32-60
- Johnson, C., 1982. *MITI and the Japanese Miracle: the Growth of Industrial Policy: 1925-1975*. Stanford University Press.
- Kaldor, N., 1977. Capitalism and industrial development: some lessons from Britain's experience. *Cambridge Journal of Economics* 1(2), 193-204.
- Kaldor, N., 1967. *Strategic factors in economic growth*. Ithaca: New York.
- Kaldor, N., 1966. Causes of the slow rate of economic growth of the United Kingdom: an inaugural lecture. Cambridge University Press.
- Kantor, B., 1998. Ownership and control in South Africa under black rule. *Journal of Applied Corporate Finance* 10(4), 69-78.
- Kaplan, D. 2015a. The Structure and Performance of Manufacturing in South Africa, in: Szirmai, A., Naude, W.A., Haraguchi, N. (eds.) *Structural Change and Industrial Development in the BRICS*. Oxford University Press, Oxford.
- Kaplan, D. 2015b. Manufacturing in Post-apartheid South Africa: Performance and Policy, in: Weiss, J., Tribe, M.A. (eds.) *Routledge Handbook of Industry and Development*. Routledge, Abingdon.
- Kaplan, D., 2011. South African mining equipment and related services: Growth constraints and policy. *Making the Most of Commodities Programme (MMCP) Discussion Paper 5*. [Online] http://www.prism.uct.ac.za/Papers/MMCP%20Paper%205_0.pdf, (accessed 11.9.12)
- Kaplan, D., 1991. The South African capital goods sector in: Gelb, S. (ed.) *South Africa's Economic Crisis*. David Philip, Cape Town.
- Kaplinsky, R. 2006. China and the Global Terms of Trade, *IDS Bulletin*, 37(1), 43-53.

- Khan, M., 2013. Political Settlements and the Design of Technology Policy, in: Esteban, J., Stiglitz, J., Yifu, J.L. (eds.) *The Industrial Policy Revolution II: Africa in the Twenty-first Century*. Springer.
- Khan, M., 2010. Political settlements and the governance of growth-enhancing institutions. [Online] <http://eprints.soas.ac.uk/9968/> (accessed 13.12.16).
- Khan, M., 2009. Learning, technology acquisition and governance challenges in developing countries. [Online] <http://eprints.soas.ac.uk/9967/> (accessed 12.12.16).
- Khan, M., Blankenburg, S., 2009. The political economy of industrial policy in Asia and Latin America, in: *Industrial Policy and Development: The Political Economy of Capabilities Accumulation*. OUP Oxford.
- Khan, M.H., Sundaram, J.K., 2000. *Rents, rent-seeking and economic development: Theory and evidence in Asia*. Cambridge University Press.
- Kinkead, G., 1981. The shy king of snob smokes. *Fortune*. August 10, 1981, 194-200.
- Krueger, A.O., 1990a. *Government failures in development*. (No. w3340). National Bureau of Economic Research.
- Krueger, A.O., 1990b. Asian trade and growth lessons. *The American Economic Review*, 80(2), 108-112.
- Krueger, A.O., 1974. The political economy of the rent-seeking society. *The American Economic Review*, 64(3), 291-303.
- Krugman, P.R., 1987. Is free trade passé? *The Journal of Economic Perspectives*, 1(2), 131-144.
- Kuznets, S., 1973. Modern economic growth: Findings and reflections. *The American Economic Review* 63(3), 247-58.
- Kuznets, S., 1957. Quantitative aspects of the economic growth of nations: Industrial distribution of national product and labor force. *Economic Development and Cultural Change* 5(S4), 1-111.
- Kuznets, S., 1955. Economic growth and income inequality. *The American Economic Review*, 45(1), 1-28.
- Lall, S., 2004. *Reinventing Industrial Strategy: The Role of Government Policy in Building Industrial Competitiveness* (No. 28). United Nations Conference on Trade and Development.
- Lall, S., 1993. What will make South Africa internationally competitive, in: Gelb, S. (ed.) *South Africa's Economic Crisis*. David Philip, Cape Town.
- Lall, S., 1992. Technological capabilities and industrialization. *World Development* 20(2), 165-186.

- Lazonick, W., 2014. Profits without prosperity. *Harvard Business Review*, 92(9), 46-55.
- Lazonick, W., O'Sullivan, M., 2000. Maximizing shareholder value: A new ideology for corporate governance. *Economy and Society* 29, 13-35.
- Leibenstein, H., 1957. *Economic Backwardness and Economic Growth*. John Wiley and Chapman & Hall, New York and London.
- Lewis, J., 2001a. Policies to promote growth and employment in South Africa (Discussion Paper No. 16), Informal Discussion Paper on Aspects of the Economy of South Africa. World Bank, Southern Africa Department.
- Lewis, J., 2001b. Reform and opportunity: The changing role and patterns of trade in South Africa and SADC (No. 14), Africa Region Working Paper Series. World Bank.
- Lewis, W.A., 1954. Economic development with unlimited supplies of labour. *The Manchester School* 22(2), 139-191.
- Lin, J.Y., 2012. *New structural economics: A framework for rethinking development and policy*. World Bank Publications.
- Lipton, M. and Simkins, C., 1993. *State & Market in Post Apartheid South Africa*. Westview Press, Inc.
- Lipton, M., 1986. *Capitalism and Apartheid: South Africa, 1910-1986*. Wildwood House, Aldershot, Hants, England.
- Little, S., Scitovsky, T., Scott, M., 1970. *Industry and Trade in Some Developing Countries*, Oxford University Press, London.
- Lucas, R.E., 1988. On the mechanics of economic development. *Journal of Monetary Economics* 22(1), 3-42.
- Macroeconomic Research Group, 1993. *Making Democracy Work: A Framework for Macroeconomic Policy in South Africa*. Centre for Development Studies.
- Maddison, A., 2007. *Contours of the World Economy 1-2030 AD: Essays in Macro-Economic History*. Oxford University Press, Oxford.
- Mahalanobis, P.C., 1953. Some observations on the process of growth of national income. *Sankhyā: The Indian Journal of Statistics (1933-1960)*, 12(4), 307-312.
- Makhaya, G., Roberts, S., 2014. The changing strategies of large corporations in South Africa under democracy and the role of competition law. CCRED Working Paper 2. *Centre for Competition Regulation and Economic Development*. [Online] Accessed from: http://www.competition.org.za/s/CCRED-Working-Paper-02-2014_-SA-Large-Corps_-MakhayaRoberts.pdf, (accessed 22.05.16)

- Makhaya, G., Roberts, S., 2013. Expectations and outcomes: considering competition and corporate power in South Africa under democracy. *Review of African Political Economy*, 40(138), 556-571.
- Malherbe, S., Segal, N., 2001. Corporate Governance in South Africa. Presented at the TIPS Annual Forum, Muldersdrift.
- Marais, H., 2011. *South Africa Pushed to the Limit: The Political Economy of Change*. Zed Books.
- Marshall, T.C., 1975. A comparison between hydraulic and pneumatic rockdrills. *Journal of the South African Institute of Mining and Metallurgy*, 75(7), 181-184.
- Marx, K., Mandel, E., 1992. *Capital: Volume 1: A Critique of Political Economy*, Reprint edition. ed. Penguin Classics, London
- Mathews, J.A., 2002. *Dragon Multinational: A New Model for Global Growth*. Oxford University Press, Oxford
- McCarthy, C., 1999. The manufacturing sector during the 1970s. *South African Journal of Economic History* 14(1-2), 143-161.
- McCarthy, C.L., 1988. Structural development of South African manufacturing industry - A policy perspective. *South African Journal of Economics*, 56(1), 1-15.
- McKinnon, R.I., 1973. *Money and Capital in Economic Development*. The Brookings Institution, Washington D.C.
- Meth, C.E., 1990. Capital goods," dependence" and appropriate technology' in: Natrass, N., (ed.). *The political economy of South Africa*. Oxford University Press.
- Milhaupt, C.J. and Zheng, W., 2014. Beyond Ownership: State Capitalism and the Chinese Firm. *Geo. LJ*, 103.
- Michie, J., Padayachee, V., 1998. Three years after apartheid: Growth, employment and redistribution? *Cambridge Journal of Economics*, 22(5), 623-636.
- Millin, M., Nichola, T., 2005. Explaining economic growth in South Africa: A Kaldorian approach. *International Journal of Technology Management & Sustainable Development* 4(1), 47-62.
- Mohamed, S., 2010. The effect of a mainstream approach to economic and corporate governance on development in South Africa, in: Edigheji, O. (ed.), *Constructing a Democratic Developmental State in South Africa: Potentials and Challenges*, Human Sciences Research Council, Cape Town.
- Mohamed, S., Roberts, S., 2008. Questions of growth, questions of development, in: Turok, B. (ed.), *Wealth Doesn't Trickle Down: The Case for a Developmental State in South Africa*. New Agenda: South African Journal of Social and Economic Policy.

- Moll, P., 1996. Compulsory centralization of collective bargaining in South Africa. *The American Economic Review* 86 (2), 326–329.
- Moll, T., 1991a. Did the apartheid economy ‘fail’? *Journal of Southern African Studies*, 17(2), 271-291.
- Moll, T., 1991b. Growth through redistribution: a dangerous fantasy? *South African Journal of Economics*, 59(3), 81-190.
- Moll, T., 1990. From booster to brake? Apartheid and economic growth in comparative perspective in: Nattrass, N., (ed.). *The political economy of South Africa*. Oxford University Press, 73-87.
- Mondi, L., Roberts, S., 2005. The role of development finance for industry in a restructuring economy: a critical reflection on the Industrial Development Corporation of South Africa.
- Moritz, L., 1994. *Trade and industrial policies in the new South Africa*. Research report. Nordiska Afrikainstitutet, Uppsala.
- Morris, M., 1991. State, capital and growth: the political economy of the national question, in: Gelb, S. (ed.) *South Africa's Economic Crisis*. David Philip, Cape Town.
- Morris, M., Kaplinsky, R., Kaplan, D., 2012. “One thing leads to another”—Commodities, linkages and industrial development. *Resources Policy* 37, 408–416.
- Murphy, J., 2008. International financial institutions and the new global managerial order. *Critical Perspectives on Accounting*, 19(5), pp.714-740.
- Murphy, K.M., Shleifer, A., Vishny, R.W., 1989. Industrialization and the big push. *Journal of Political Economy*, 97(5), 1003-1026.
- Myint, H., 1967. Economic theory and development policy. *Economica* 34(134), 117–130.
- Myrdal, G., 1957. *Economic Theory and Under-developed Regions*. Duckworth & Co.
- Naidoo, K., 2006. Operationalising South Africa’s move from macroeconomic stability to microeconomic reform, in: Padayachee, V., (ed.) *The Development Decade? Economic and Social Change in South Africa, 1994–2004*. HSRC Press, Cape Town.
- Nattrass, N., 2014. A South African variety of capitalism? *New Political Economy*, 19(1), 56–78.
- Nattrass, N., 2003. The state of the economy: A crisis of employment, in Daniel, J., Habib, A., Southall, R. (eds.), *State of the Nation: South Africa 2003-2004*, HSRC Press, Cape Town, 141-157.

- Nattrass, N., 1996. Gambling on investment: competing economic strategies in South Africa. *Transformation: Critical Perspectives on Southern Africa*, (31), 25–42.
- Nattrass, N., 1989. Post-war profitability in South Africa: A critique of regulation analysis in South Africa. *Transformation: Critical Perspectives on Southern Africa*, (9), 66–80.
- Nattrass, N., Seekings, J., 2010. State, business and growth in post-apartheid South Africa. *Research Programme Consortium on Improving Institutions for Pro-Poor Growth* 34.
- Ncube, P., Roberts, S., and Zengeni, T., 2016. Development of the animal feed to poultry value chain across Botswana, South Africa, and Zimbabwe. WIDER Working Paper, No. 2016/2
- Ndikumana, L., 2016. *Trade Misinvoicing in Primary Commodities: The Cases of Chile, Côte d'Ivoire, Nigeria, South Africa and Zambia*. UNCTAD, December.
- UNECA, 2016. *Transformative Industrial Policy for Africa*, Economic Commission for Africa, Addis Ababa
- Nelson, R., 1957. *A Theory of the Low Level Equilibrium Trap in Underdeveloped Countries*.
- Newman, S., 2010. Financialisation and the financial and economic crises: The case of South Africa. *Studies in Financial Systems* No. 26, Financialisation, Economy, Society and Sustainable Development.
- Newman, S., Takala-Greenish, L., 2014. African industrialisation: Is global value chain development the answer? Presented at the International Conference on Manufacturing Led Growth for Employment and Equality, Johannesburg.
- Nolan, P., 2001. *China and the Global Economy: National Champions, Industrial Policy, and the Big Business Revolution*. Palgrave, Basingstoke.
- Nolan, P., Sutherland, D., Zhang, J., 2002. The challenge of the global business revolution. *Contributions to Political Economy*, 21(1), 91–110.
- Nolan, P., Zhang, J., Liu, C., 2008. The Global Business Revolution, the Cascade Effect, and the Challenge for Firms from Developing Countries. *Cambridge Journal of Economics* 32(1), 29–47.
- Nölke, A., Claar, S., 2013. Varieties of capitalism in emerging economies. *Transformation: Critical Perspectives on Southern Africa*, 81(1), 33–54.
- North, D.C., 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge University Press.
- North, D.C., 1993. Five propositions about institutional change. Economics Working Paper Archive at WUSTL.

- North, D.C., Wallis, J.J., Weingast, B.R., 2009. *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History*. Cambridge University Press.
- Olson, M., 1993. Dictatorship, Democracy, and Development. *American Political Science Review*, 87(03), 567-576.
- O'Meara, D., 1996. *Forty Lost Years: The Apartheid State and the Politics of the National Party, 1948–1994*. Ravan Press, Randburg
- O'Meara, D., 1983. *Volks-kapitalisme: Class, Capital and Ideology in the Development of Afrikaner Nationalism, 1934-1948*. Ravan, Johannesburg.
- Pacheco-López, P. & Thirlwall, A.P., 2006. Trade liberalization, the income elasticity of demand for imports, and growth in Latin America. *Journal of Post Keynesian Economics*, 29(1), 41-61.
- Padayachee, V., 2013. Corporate governance in South Africa: from “Old Boys Club” to “Ubuntu”? *Transformation: Critical Perspectives on Southern Africa*, 81(1), 260-290.
- Pallister, D., Stewart, S., Lepper, I., 1988. *South Africa Inc: The Oppenheimer Empire*. Corgi Books.
- Palma, J.G., 2009. The revenge of the market on the rentiers.: Why neo-liberal reports of the end of history turned out to be premature. *Cambridge Journal of Economics* 33(4), 829–869.
- Palma, J.G., 2005. Four sources of “de-industrialization” and a new concept of the “Dutch disease,” in: Ocampo, J.A., (ed.). *Beyond reforms: structural dynamics and macroeconomic vulnerability*. Stanford university press, 71–116.
- Penrose, E.T., 1959. *The Theory of the Growth of the Firm*, 4th edition, Oxford, University Press, 1990.
- Piore, M.J., Sabel, C.F., *The Second Industrial Divide: Possibilities for Prosperity*. Basic Books.
- Pollin, R., Epstein, G.A., Ndikumana, L., 2006. *An Employment-targeted Economic Program for South Africa*. Edward Elgar Publishing.
- Ponte, S., Roberts, S., Van Sittert, L., 2007. ‘Black Economic Empowerment’, business and the state in South Africa. *Development and Change*, 38(5), 933-955.
- Porter, M.E., 1992. Capital disadvantage: America’s failing capital investment system. *Harvard Business Review* 70, 65–82.
- Prebisch, R., 1950. *The Economic Development of Latin America and its Principal Problems*. United Nations, Lake Success, New York.
- Pritchett, L., 1996. Measuring outward orientation in LDCs: Can it be done? *Journal of Development Economics* 49(2), 307–335.

- Radice, H., 2008. The developmental state under global neoliberalism. *Third World Quarterly*, 29(6), 1153-1174.
- Reinert, E.S., 2008. *How Rich Countries Got Rich and Why Poor Countries Stay Poor*. Public Affairs, New York.
- Roberts, S., 2005. Industrial development and industrial policy in South Africa—a ten year review. *South African Economic Policy under Democracy*
- Roberts, S., 2004. The role for competition policy in economic development: The South African experience. *Development Southern Africa* 21(1), 227–243.
- Roberts, S., Zalk, N., 2004. Addressing market power in a small, isolated, resource-based economy: the case of steel in south Africa'. *CrC 3rd International Conference*.
- Roberts, S., Rustomjee, Z., 2010. Industrial policy under democracy: apartheid's grown-up infant industries? Iscor and Sasol. *Transformation: Critical Perspectives on Southern Africa*, 71(1), 50-75.
- Robinson, J.A. and Acemoglu, D., 2012. *Why Nations Fail: The Origins of Power, Prosperity and Poverty*. Crown, New York.
- Rodríguez, F., 2007. Openness and growth: what have we learned? United Nations, Department of Economics and Social Affairs.
- Rodriguez, F., Rodrik, D., 2001. Trade policy and economic growth: a sceptic's guide to the cross-national evidence, in: *NBER Macroeconomics Annual 2000*, Volume 15. MIT Press, 261–338.
- Rodrik, D., 2015. Premature deindustrialization (Working Paper No. 20935). National Bureau of Economic Research.
- Rodrik, D., 2009. Industrial policy: don't ask why, ask how. *Middle East Development Journal*, 1(01), 1-29.
- Rodrik, D., 2008. Understanding South Africa's economic puzzles. *Economics of Transition* 16(4), 769–797.
- Rodrik, D., 2004. Industrial Policy for the Twenty-First Century (No. 4767). CEPR Discussion Papers.
- Rosenstein-Rodan, P.N., 1957. Notes on the theory of the “big push” (Technical Report). Cambridge, Mass.: Center for International Studies, Massachusetts Institute of Technology.
- Rosenstein-Rodan, P.N., 1943. Problems of industrialisation of Eastern and South-Eastern Europe. *The Economic Journal* 53, 202–211.
- Rostow, W.W., 1960. *The stages of economic growth: A non-communist manifesto*. Cambridge University Press.
- Rustomjee, Z., 2007. Engineering services trade: The case of South Africa. In *Organisation for Economic Co-operation and Development and the World*

- Bank, "Sixth Services Experts Meeting on Domestic Regulation and Trade in Professional Services," Paris, 15-16.
- Rustomjee, Z., 1993. *The Engineering Sector in South Africa*. Industrial Strategy Project.
- Rustomjee, Z., 1991. Capital flight under apartheid. *Transformation: Critical Perspectives on Southern Africa* (15), 89-103
- Samuelson, P.A., 1948. International trade and the equalisation of factor prices. *The Economic Journal*, 58(230), 163-184.
- Saul, J., Gelb, S., 1981. The Crisis in South Africa: Class Defense, Class Revolution. *Monthly Review* 33(3)
- Sender, J., 2016. Backward capitalism in rural South Africa: Prospects for accelerating accumulation in the Eastern Cape. *Journal of Agrarian Change*, 16(1), 3-31.
- Sender, J. and Smith, S., 1986. *The Development of Capitalism in Africa*. Methuen. London
- Sender, J. and Smith, S., 1984. What's right with the Berg Report and what's left of its critics?', *Institute of Development Studies*, University of Sussex (No. 192). Discussion Paper.
- Shaw, E.S., 1973. *Financial deepening in economic development*. Oxford University Press, London.
- Shapiro H., 2007, Industrial Policy and Growth. UNDESA Working Paper Series No. 53
- Singer, H.W., 1950. The distribution of gains between investing and borrowing countries. *The American Economic Review* 40(2), 473-485.
- Singh, A., 2008. The Past, Present and Future of Industrial Policy in India: Adapting to the Changing Domestic and International Environment. ESRC Centre for Business Research.
- Singh A., 1997. Financial liberalisation, stockmarkets and economic development. *The Economic Journal*. 107(442), 771-82.
- Singh, A., Glen, J., Zammit, A., De-Hoyos, R., Singh, A., Weisse, B., 2005. Shareholder value maximisation, stock market and new technology: Should the US corporate model be the universal standard? *International Review of Applied Economics* 19, 419-437.
- Smith, A., 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations* [Online]. www.marxists.org. URL <https://www.marxists.org/reference/archive/smith-adam/works/wealth-of-nations/> (accessed 10.30.16).
- Standing, G., Sender, J., Weeks, J., 1996. *Restructuring the Labour Market: The South African challenge*. International Labour Office, Geneva.

- Stiglitz J.E., Weiss A., 1981. Credit rationing in markets with imperfect information. *The American Economic Review*. 71(3), 393-410.
- Storm, S., 2015. Structural change. *Development and Change* 46(4), 666–699.
- Strauss, I., 2017. Understanding South Africa's current account deficit: The role of foreign direct investment income. *Transnational Corporations*, 23(2), 49-80.
- Streeten, P., 1959. Unbalanced growth. *Oxford Economic Papers* 11, 167–190.
- Studwell, J., 2013. *How Asia works: Success and failure in the world's most dynamic region*. Grove/Atlantic, Inc.
- Sundaram, J.K., Chowdhury, A., 2012. *Is Good Governance Good for Development?* A&C Black.
- Syrquin, M., Robinson, S., Chenery, H., 1986. *Industrialization and Growth: A Comparative Study* (No. 74247). The World Bank.
- Szirmai, A., Naudé, W.A., Alcorta, L. (eds.), 2013. *Pathways to Industrialization in the Twenty-first Century: New Challenges and Emerging Paradigms*, UNU-WIDER Studies in Development Economics. Oxford University Press, Oxford.
- Tangri, R. and Southall, R., 2008. The politics of Black Economic Empowerment in South Africa. *Journal of Southern African Studies*, 34(3), 699-716.
- Thirlwall, A.P., 2002. *The Nature of Economic Growth: An Alternative Framework for Understanding the Performance of Nations*. E. Elgar, Cheltenham.
- Thirlwall, A.P., 1994. Cumulative causation, in: Arestis, P., Sawyer, M.C. (eds.), *The Elgar Companion to Radical Political Economy*. Edward Elgar Publishing, 62-65
- Thirlwall, A.P., 1983. A plain man's guide to Kaldor's growth laws. *Journal of post Keynesian economics*, 5(3), 345-358.
- Toner, P., 1999. *Main Currents in Cumulative Causation* Palgrave Macmillan, New York, US.
- Toye, J., 2003. Changing perspectives in development economics, in: Chang, H.J. (ed.). *Rethinking Development Economics, Anthem Studies in Political Economy and Globalization*. Anthem Press, London.
- Tregenna, F., 2013. Deindustrialization and reindustrialization, in: Szirmai et al. (eds.) *Pathways to Industrialization in the Twenty-First Century: New Challenges and Emerging Paradigms*. Oxford University Press, Oxford.
- Tregenna, F., 2012. Sources of subsectoral growth in South Africa. *Oxford Development Studies* 40(2), 162–189.
- Tregenna, F., 2008. The contributions of manufacturing and services to employment creation and growth in South Africa. *South African Journal of Economics* 76(s2), 175–204.

- Tregenna, F., Kwaramba, M., 2014. A Review of the International Trade Administration Commission's Tariff Investigation Role and Capacity. *Journal of Economic and Financial Sciences*, 7.
- Tsikata, Y.M., 1999. Liberalization and trade performance in South Africa (Discussion Paper No. 13), Informal Discussion Paper on Aspects of the Economy of South Africa. World Bank, Southern Africa Department.
- Verhoef, G., 2009. Concentration and competition: The changing landscape of the banking sector in South Africa 1970–2007. *South African Journal of Economic History* 24, 157–197.
- Visser, M., 2006. An overview of the history and current operational facilities of Samancor Chrome, in: Southern African. *Pyrometallurgy*, 285–296.
- Wade, R.H., 2012. Return of industrial policy? *International Review of Applied Economics*, 26(2), 223–239.
- Wade, R.H., 2005. Failing states and cumulative causation in the world system. *International Political Science Review* 26(1), 17–36.
- Wade, R., 1996. Japan, the World Bank, and the Art of Paradigm Maintenance: "The East Asian Miracle" in Political Perspective. *New Left Review* (217), 3.
- Wade, R., 1990. *Governing the Market: Economic Theory and The Role of Government in East Asian Industrialization*. Princeton University Press, Princeton, N.J.
- Walker, M., Jourdan, P., 2003. Resource - based sustainable development: an alternative approach to industrialisation in South Africa. *Minerals & Energy - Raw Materials Report* 18, 25–43.
- Walters, S., Prinsloo, J., 2002. The impact of offshore listings on the South African economy. South African Reserve Bank.
- Weeks, J., 1999. Commentary. Stuck in low GEAR? Macroeconomic policy in South Africa, 1996–98. *Cambridge Journal of Economics* 23(6), 795–811.
- Weiss, J., Tribe, M.A. (Eds.), 2015. *Routledge Handbook of Industry and Development*. Routledge, Abingdon, Oxon.
- Wells, H., Thirlwall, A. P., 2003. Testing Kaldor's growth laws across the countries of Africa. *African Development Review* 15(2-3), 89–105.
- Wesson, N., 2015. An empirical model of choice between share repurchases and dividends for companies in selected JSE-listed sectors (Dissertation presented for the degree of Doctor of Philosophy in Business Management and Administration). Stellenbosch University.
- Williamson, J., 2009. *Short History of the Washington Consensus*, A. Law & Bus. Rev. Am. 15, 7.

- Williamson, O.E., 1998. *The Economic Institutions of Capitalism*. Free Press, New York; London.
- Wittenberg, M., 1997. Growth, demand and redistribution: Economic debate, rhetoric and some food for thought, in: *The Political Economy of South Africa's Transition: Policy Perspectives in the Late 1990s*. Dryden Press, London.
- Woo-Cumings, M. (ed.), 1999. *The Developmental State*. Cornell University Press, Ithaca.
- World Bank, 2011. Improving the Business Environment for Growth and Job Creation in South Africa: the Second Investment Climate Assessment. The World Bank.
- World Bank, 2008. The Growth Report: Strategies for Sustained Growth and Inclusive Development. The World Bank.
- Young, A.A., 1928. Increasing returns and economic progress. *The Economic Journal* 38, 527.
- Zalk, N., 2014a. Industrial policy in a harsh climate: The case of South Africa, in: Salazar-Xirinachs, J.M., Nübler, I., Kozul-Wright, R.(eds.) *Transforming economies. Making industrial policy work for growth, jobs and development*. ILO/UNCTAD, 327-354.
- Zalk, N., 2014b. Markups in South African Manufacturing - Are they high and what can they tell us? In *Manufacturing Led Growth for Employment and Equality*, Johannesburg.
- Zalk, N., 2012. South African post-apartheid policies towards industrialization: Tentative implications for other African countries, in: Noman, A., *Good Growth and Governance in Africa: Rethinking Development Strategies*. Oxford University Press, 345-371.